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## HOW TO PRESERVE MENTAL HEALTH DURING DAYS OF UNUSUAL STRESS†

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It would seem that the danger of a break in the mental health of our people caused directly by actual warfare has been greatly exaggerated. From our past experience there is no reason why we should expect excessive increase in nervous breakdowns during this international conflict. From information we have at hand, people in Spain during the Civil War and in England during the present war, where hostilities were carried to the civilian population, there has been no increase in insanity, this in spite of the highly mechanized and greater scope of modern warfare. In the United States we are just beginning to receive meager statistics in regard to mental illness among the armed forces, while practically no accurate study has been made of civilian reaction as a whole. As is to be expected, in the beginning, the psychiatric casualties among the armed forces seem to be a little high; however, in studying some of these cases, who have come directly to our own institution, we find that many of the individuals have been either severely mal-adjusted, psychopathic, pre-psychotic or psychotic before they entered the Army, but were able to adjust in community life under normal conditions without anyone considering the patient as being more than a bit eccentric. The regulated life in the Army and the careful supervision has brought the psychoses to the attention of the authorities or has caused an accentuation of the symptoms. It would hardly seem fair to consider these cases as being caused by the war. Even after being discharged from the Army many are able to adjust in civilian life. Others, who have had their symptoms accentuated, would have be-

come psychiatric cases at some future date, the change in routine caused by Army life being merely the precipitating factor. It has also been true that a certain number of cases have been allowed to enter the armed forces who have previously been patients in a hospital for mental and nervous diseases. Dementia praecox has been the most frequent psychosis found. This is to be expected in considering the age group of the majority, which has, up to the present been inducted into the Army, since the onset of the overt psychotic symptoms of schizophrenia occurs, as a rule, between the ages of 18 and 30. Many of these cases would have been admitted to institutions within a year or two whether there had been a war or not.

We are not considering in this discussion cases of shell-shock occurring among men in combat duty, since I feel that the term "shell-shock" should apply only to such cases who have suffered from trauma due to concussion and who have been under prolonged physical strain without sufficient food or sleep. These cases should be considered as organic in nature and are often due to a slight cerebral concussion. True, there are definite personality changes which may continue throughout the lifetime of the individual, but the etiological factor is based on a definite physical trauma. Those cases in the last war who were diagnosed as shell-shock, but who really suffered from a hysterical reaction, should have been classified in a group of war neuroses, since their reaction was based on personality conflicts which were already present and merely precipitated by the war when an escape from reality was found to be necessary. This escape would have occurred, as we have tried to emphasize, under any severe environmental trauma, either domestic, economic, or war..

In considering the civilian population, we again have to turn to statistics from abroad. Here we find that cases of neuroses actually

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recovered with the onset of hostilities and that there was a marked decrease in the number of new cases admitted to the clinics for treatment. This, what seems to be a paradoxical reaction, was probably based on the fact that everyone developed a feeling of responsibility and had definite work to do which was of value to the group. People did not have time to brood over their individual mental conflicts and consequently did not develop the symptoms of a definite neuroses. Moreover, there was considerable ego satisfaction in the fact that the individual felt that he was useful to the safety of the nation and recognized as such. True, in this country we have not as yet, and we hope never, been subjected to actual fighting or air raids to a large scale. True, some of our possessions have been attacked, but with the exception of the Aleutian Islands, which to most people until the present time, was merely a name, this continent has been free from combat. However, with the enlargement of the Army and consequent decrease of manpower in the industrial fields necessary to keep the armed forces in action, there is a place for every individual to produce something of value for the welfare of the whole. This necessitates a direction of thoughts and emotions outward and is one of the best therapeutic measures which can be used in the treatment of the neurotic individual. It is true that there are a few cases of actual psychoses which may be caused by the war in a certain type of personality. However, these conditions are not common and are readily curable.

I will mention at this point just a few which might occur: individuals with a tendency toward manic depressive psychoses may develop a depressed attack when some member of the family is either injured, killed, or forced to enter the service. In times of actual combat there are cases of acute panic precipitated by fear, lack of sleep and prolonged stress combined with exhaustion. One can hardly consider these as mental casualties, as it has been found that they usually recover after two or three days in a hospital, where they can have sufficient rest, and they are usually able to return to their homes and carry on their duties in the same manner as before. A few overly-civilized people de-

velop a paranoid reaction. These individuals are of a type who are inclined to take their own position in life too seriously and who are depriving themselves of sufficient relaxation and entertainment. As they become somewhat exhausted, they are apt to first misinterpret the behavior of others and finally to become actually delusional but rarely hallucinated. They, as a rule show a certain amount of insight and usually make a satisfactory recovery. However, as long as they continue to neglect the ordinary rules of mental health, that is, sufficient sleep, adequate recreation and proper physical care, they are apt to have repeated attacks. The stimulus of the war has assumed an importance beyond that necessitated and they have used all of their energy in one direction, causing an imbalance in living habits.

It was to be expected that the greatest change would come after the war, for it has been found that people develop mental conditions not when the basic aspects of life are attacked, such as life itself, but when the more superficial aspects are in danger of being destroyed, such as economic security and social position. It would seem to me that there is less danger of a greater increase in mental casualties after this war than there was after the last, since there is being more stress placed on economic security for all and social equality, based not on birth, wealth or education, but on what the individual produces for the good of the community. For a time it appeared that our greatest difficulty would be one of adult maladjustment produced by boredom when it seemed more obvious that actual combat would not be carried on in this country. The behavior resulting in such a reaction would be in increased drinking, a lowering of sexual standards and a general indifference to the minor mores governing the community. However, with a controlling of spending and the psychological education which is being carried out through radio, magazines and newspapers, etc., there seems to be very little tendency toward this development at the present time. Adults, who lived through such a period during the last war, realize the danger which exists and most intelligent people are making a definite

effort to prevent such a situation from developing among the young people.

There has been a lowering of social standards and in all probabilities it will be necessary for the individual to deprive himself still further and learn to live with only the necessities of life. Also the civilian population will be subjected to fluctuations of emotions as they learn of defeat which will occur at times followed at others by victory. It is necessary that we realize that we are going to pass through a long period of emotional stress and that each individual should learn to control his emotional reactions, realizing that one of the greatest methods of stabilization is work, not for the individual but for the group as a whole. There will be some criticism but on the whole this criticism will be alleviated if the people are told the truth and made to realize the necessity of sacrifice which they must undergo. In considering the attitude of the people as a whole during this present conflict and the last, we find that twenty-five years ago the emotions aroused were more than that of hatred while at the present we find that people are angry because of an interference with their freedom and way of living. It seems to me that the present manner in which people are accepting the change in their way of life speaks well for the mental health of the country as a whole.

Enemy propaganda has attempted to develop a "war of nerves" by broadcasting false rumors and reports. Fortunately their psychology, particularly in regard to this hemisphere, was at fault. There are two factors which make it improbable that this country will succumb to such a technique. The first one is that we are, relatively speaking, a young nation more mechanically than intellectually minded. We may be considered as adolescents in national development and are inclined to be skeptical unless actual proof is offered. The second reason is based on the fact that most of our people are of mixed blood and there is not one racial type with generations of prejudice. This mixture has a stabilizing effect on the country as a whole. This nation realized that it was in danger of being dominated by the forces of Nazism or Fascism, but, true to the spirit of democracy, it did not enter into active warfare until an-

other nation interferred with its activity. This country then engaged in a war which was the responsibility of every individual.

The average American is not interested in interfering with the affairs of others, but when given a job accepts it as a challenge. He looks forward to developing something new and if defeated, it arouses in him an effort to change his activities so that such a defeat will not occur again. In the older civilizations, however, defeat is a cause for depression rather than stimulation since there is a tendency to fix the blame and to worry as to why a plan has not worked out, with the result of a loss of energy which should be used in devising new and more workable techniques. Again, as in adolescent nations, war assumes more of the aspect of a game in which the combatant must take his part to the best of his ability. His emotions are involved in doing the job well and not in unnecessitated hatreds and false pride.

Although there has been a marked increase in juvenile delinquency in England, we must again realize that the average child in that country has gone through considerably more stress than the child of this. We can expect a certain amount to develop because of broken home situations due to either the death of a father during combat or to his induction into the Army, or to both parents being away from the home working in defense industries, a situation which is becoming more common as the demand increases. As yet, the child has not been subjected to conditions where fear or panic would play an important role. As I have stated before, the average individual can meet a problem when unusual stress occurs, but is apt to break when the stress is relieved and he finds it necessary to return to a normal status of living. It seems to me that our chief problem lies in training the child, who will be the adult after this war is over, to live in such a manner and conduct the life of the nation in such a way that it will be impossible for a third calamity to occur.

Mistakes were made after the last war. We, as a country, on the whole, are ready to recognize this. The children of the men who fought in the last war are now forced to fight in another and much greater war. They are willing to forgive the mistakes that have been

made, but it is doubtful if democracy can survive if mistakes in world adjustment are again made after this war. We are fighting for certain principles which we believe are the rightful heritage of mankind. I cannot emphasize too much that only in the schools can we develop desirable principles of living if we are to allow civilization to progress. Every child has an opportunity to receive the highest education, but until recently, this education has consisted mostly in learning facts and has not fully taught the child how to live with his fellow man wherever he may be in this world. As is natural at the present time, there is considerable stress played in developing certain national ideals, but we must be careful that we do not indoctrinate the child so that he follows blindly wherever he is led. We should teach the child to use his intelligence freely, allow him to learn the importance of understanding the differences of individual mental processes and teach him racial and social tolerance and equality of all individuals in an economic and public social life.

We have made a mistake in considering higher education as something which all should be entitled to have whether they are intellectually or emotionally endowed for such or not. Again, until recently, a college education has been more or less a social necessity. I feel that the American people are now realizing that in the school system the child's abilities should be carefully studied and he should be encouraged to choose as his life work some trade or profession for which he is best endowed inherently. Only if we break down the social barriers which exist to a rather marked degree between the laborer and skilled mechanic and professional and business man can we succeed in having the child accept the training for which he is most apt. We must be careful at the present time that the child does not develop prejudices and false ideas regarding other peoples. Patriotism is not an inherent trait but acquired. Valuable as this trait is, the child must realize that in the entire scheme of things, all nations and all peoples deserve equal consideration and that only when one nation disregards the rights of another nation a war is justified.

You have asked me to discuss the subject of how to preserve mental health during days of unusual stress. I have digressed from this subject considerably since the problem in itself does not seem acute. Mental health is at its best during times of unusual stress, if this stress is based on the primitive aspects of life such as self-preservation and racial preservation. It is only necessary to follow the average rules of hygiene to keep the individual mentally healthy, that is, work which is of a productive nature and helps toward the welfare of the group, sufficient sleep and adequate recreation.

When we recognize fully the principles for which we are fighting individual deprivation will be considered as a sacrifice necessary for the future development of a true civilization which is based on principles we have accepted for many generations. Then we will work for a successful completion of our plans, not for the material gains which we might receive but for the ideals involved. Emotional, intellectual, and physical satisfaction will be obtained through normal outlets, without resorting to extravagant and artificial means of living and recreation. This will gradually and naturally lead to a better relationship between all people with a drawing away from selfish living and ideals. True, there will always be certain barriers in our social life based on individual differences, usually of an intellectual or emotional nature. We do not wish to interfere with individual social life but whenever possible equal standards should be strived for in public relationship.

The people of the United States expect from the government an adequately trained Army and Navy, who are well supplied with all the instruments of warfare. If this is true the man in the armed services may expect something from the civilian people. He is not only offering his services but his life and he hopes that those remaining at home will do more than carry on "business as usual." If a soldier is to be adequately equipped and to be well fed and clothed it will be necessary for the people at home to work more and produce more. There are two points which we must learn to accept. One is self sacrifice, since we must learn to deprive ourselves of the usual comforts and pleasures.

We must live with only the necessities of life and find substitutes for many of our pleasures. The second is discipline. We must restrain from a selfish drive and ego satisfaction and find a satisfaction in serving our country and humanity. Our soldiers must live lives of sacrifice. Why should the civilian accept the dangerous philosophy, "let us live the limit today, since tomorrow we may die."

In closing, I would like to say a few words about the importance of adequate recreation. England probably has given us the most important statistics in regard to how much effort an individual can use in his work. It has been found that the person who works more than ten hours a day for a long period of time produces less than the individual who has the necessary time for play. During an emergency, for a short period of time, a few weeks at the most, a person can work more than ten hours a day for seven days a week and keep up an average production, but after this period, there is found a definite lagging often combined with irritability, paranoid tendencies and inability to adjust in the group.

Summarizing, mental health is not something apart from all that constitutes the whole. The individual being a part of the nation must use his native endowments to attain normal physical, mental, emotional and social adjustment necessary for his inner requirements, and should learn through self discipline and self sacrifice how to maintain stability, in face of radical change of living habits. We should learn to help rather than condemn each other.

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#### PSYCHONEUROTIC REACTIONS RESULTING FROM ORGANIC DISEASE

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The psychoneurotic is the most difficult patient with which every physician must contend. Many careful students of medicine maintain that a true psychoneurosis cannot occur without some underlying physical disability and that the psychoneurosis is only the patient's manner of reacting to the physical condition which is present. Bearing this in mind the practicing physician should not

make the diagnosis too readily, nor, if such a diagnosis is made should he fail to look for the physical factor which might be present and which must be cured before the patient obtains proper treatment. On the other hand many physical diseases may so closely simulate psychoneurosis that it is difficult for a differential diagnosis to be made without the most careful physical and laboratory examination. The case presented shows the problem which confronts the psychiatrist as well as the general practitioner when a patient comes to him complaining of vague physical symptoms, apathy and mild depression usually found in the psychoneurotic.

The patient M, a fifty-two-year-old white woman, came from a family which showed no evidence of nervous or mental disease. She was the oldest child in a family of two and the only daughter. Although born on a farm she was sent to High School and had considerable instruction in music. She was overly protected by her mother and considerably attached to her. Although her mother did all disagreeable tasks for her the patient did not seem to be spoiled but was always friendly and pleasant and readily took over responsibility when she was married. She showed a slight tendency to worry over trifles. She taught school and at the same time gave music lessons for three years before her marriage and was considered very capable in both. She was married at the age of twenty-three and was well until the birth of her only child about two years later. Since this time she was reported as being nervous, irritable, easily upset and even more inclined to worry excessively. She was anemic for some time after the birth of her child and her vague symptoms became worse until 1928 at which time she was subjected to crying spells and became weak and easily exhausted. She entered a general hospital and a pelvic operation and appendectomy were performed to correct a retro displaced uterus. Her recovery was gradual and her nervous condition seemed to improve with the enforced rest. However, in about a year's time again she began to complain of weakness and nervousness. These symptoms continued, and she again entered a general hospital in January, 1932, at which time she had a hysterectomy. Five months

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later she had a severe attack of influenza with a very high temperature and with kidney complications.

Early in 1933 she again went to a general hospital with the usual complaint of weakness, dizziness and some headache. Here a diagnosis of neurosthenia was made in spite of a red blood count of 3,950,000 and a haemoglobin of 62%. She left the hospital without benefiting from her stay there, took a short vacation in the mountains and returned home much improved and remained well during the summer, except for the fact that she suffered some from insomnia. Later all of her symptoms returned but in a more marked nature. She became very discouraged had violent crying spells, and, since the onset of her so-called nervous spells always followed some stress which she was unable to meet, she eventually entered the Observation Clinic in November, 1933, and remained there for two months. The diagnosis of psychoneurosis was made in spite of the following physical findings: basal metabolism rate was -15. The red blood count was within normal limits, there were definite areas of pigmentation; systolic blood pressure at rest was 110, and the heart sounds were weak. The thyroid lobes were palpable. She herself complained of a desire to yawn, insomnia extreme weakness. Although it was recognized that some physical abnormalities were present, the staff felt that the major factor in her illness was psychoneurotic in character. Under a regime of rest and hydrotherapy she left the hospital greatly improved. She was kept under observation for a year but the social worker reported that although the patient appeared greatly improved she gave the impression that she would readily have a return of symptoms at the slightest provocation. She re-entered the Observation Clinic willingly in October, 1942, complaining of weakness, listlessness, some depression and anxiety. At this time her husband stated that for the past several years she had suffered from periods of anemia during which times she would have a return of her nervous symptoms. She would improve with the use of iron injections and when her haemoglobin became normal she would recover completely. Since July her anemia showed no tendency to improve and

she became worried and readily gave in to her physical symptoms.

On initial examination the same symptoms were found as previously. She had an ashen pallor and her systolic blood pressure was 100, with heart sounds weak. She herself complained of severe weakness, pressure in the top of her head. Blood count was normal, but she had been on liver and iron therapy. She was not depressed on admission but looked extremely ill. Blood counts since 1937, while she was under the care of a physician at home, showed a red blood count which went as low as 2,600,000, and a haemoglobin of 66%. The color index was usually over one, but there were no abnormal cell types found. The basal metabolism in September, 1942, was plus 27, but it was felt that this reading was false since the blood cholesterol was elevated to 342 mg. per 100 c.c. of blood. In November she was seen by the consulting endocrinologist who placed her on  $\frac{1}{4}$  grain thyroid, plus one grain of pituitary twice daily. She improved rapidly on this treatment and was able to return home in December with the request to come to the hospital monthly. Repeated basal metabolism tests showed a gradual decrease, the last one in March 1943 being -7. The cholesterol test was not repeated because of traveling difficulty. Until April the patient maintained good health. She was seen in March and appeared well. However, shortly after this she had a severe attack of influenza; the glandular therapy was stopped and she was given sulfathiazol because of continued elevation of temperature. She returned to the Clinic complaining of weakness, but with no other symptoms. The red blood count and haemoglobin at this time showed a tendency to be lower. Whether this was due to the fact that she discontinued the thyroid or to the influenza is rather difficult to tell. The final staff diagnosis, however, was recurrent anemia of hypothyroidism.

Here we have a case which presents a rather mixed picture. Recurrent spells of marked anemia showed the presence of some organic state. However, when her blood count was normal she still showed evidence of extreme weakness, yet laboratory tests showed that she was suffering from a low grade of hypothyroidism. Her mental reaction was out of

proportion to the physical findings, yet when the physical findings were brought to normal her mental symptoms disappeared. It is probable that this patient has rather strong psychoneurotic tendencies, but they were never evident when she was physically well.

There is always a precipitating factor present and this factor may be, and often is, organic in nature, while in other cases it is environmental. If the condition is precipitated by an organic disease no cure can be hoped for unless the patient's physical health is cared for. The cure in these cases may be almost dramatic in nature as compared to those in which the environment plays the important role. Too often the diagnosis of psychoneurosis is made and recovery is hampered because of improper attention to physiology. Cases in this group should not be allowed to become chronic invalids because of careless and improper study.

#### PSYCHASTHENIA IN A CHILD OF SEVEN YEARS

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The major psychoses of functional type are diseases of adult life and rarely occur before puberty. This childhood immunity does not include the minor psychoses or psychoneuroses. These mental conditions are common in children, the manifestations varying according to age. Very young infants may display simple disorders such as regurgitation, vomiting and disturbances of elimination without organic cause. In later childhood more elaborate symptoms are seen: night terrors, enuresis, unreasonable fears, anxiety manifestations, overactivity, and compulsive activities, including habit spasms or ties, masturbation and persistent mischievous behavior, lying, stealing, destructiveness and tantrums. Finally, well defined symptom complexes fitting the formally accepted definitions of the psychoneuroses may be observed in children of upper age groups or in younger children with high intelligence quotients, there being a certain relation between mental development and complexity of symptomatology. The

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higher the intelligence, the more elaborate the psychoneurosis.

It is often said that a psychoneurosis can develop only if there is an inherited predisposition. It may safely be added that this predisposition is universal, varying in degree, and that given sufficiently bad environmental conditions practically any individual will develop psychoneurotic symptoms. In fact, when it is recalled that psychoneuroses have been experimentally induced in lower animals by subjecting them to repeated frustration, the relative importance of heredity appears less than is generally accepted. On the other hand, investigation reveals almost invariably that the psychoneurotic child has been exposed to psychiatrically harmful environmental influences.

Children referred by social agencies include a strikingly high proportion exhibiting symptoms such as enuresis, tantrums, phobias, compulsive stealing, lying, etc. These children usually are from broken homes or have been subjected to parental neglect or abuse. Despite the best efforts of agencies, the psychoneurotic tendencies may be accentuated by the unavoidable necessity of changes in foster home placement, impressing the child with the insecurity of his position.

Children living at home with both parents under economic and social conditions generally considered excellent, may actually be subject to many influences calculated to create maladjustment and consequent psychoneurotic symptoms.

The following case is an example of a child whose situation would impress the casual observer as fairly good. Close study, however, revealed many factors to account for the psychoneurosis which is of a type extremely rare in the patient's age group.

K. H.: A white boy, aged seven years, was referred by the family physician because of "abnormal fears, compulsions, and poor social adjustment in school." The boy is an only child of parents in comfortable economic circumstances. The father lacks aggressiveness, suffers from severe feelings of inadequacy and has attained a moderate degree of business success as a result of encouragement and prodding on the part of his wife.

The mother is aggressive but tense and

emotional. The parents disagree on methods of discipline and frequently quarrel violently in the boy's presence. Each parent blames the other for the child's mental state. The father ridicules the boy. The mother is overprotective and allows him to see her concern over his "nervousness."

Shortly after birth the patient developed projectile vomiting. Pyloric stenosis was diagnosed and arrangements were made for surgery. Before operation could be done, however, the stenosis was relieved. He suffered from eczema from age three months to age two years. He was kept in a play-pen long after he learned to walk because the mother feared he would hurt himself. He never slept in complete darkness. He "cuddled" a small blanket in bed and enjoyed the sensation of the fluff against his skin. He began to masturbate at the age of four and has not relinquished the habit. There were temper-tantrums from infancy to the age of five.

School adjustment was poor. The patient was terrorized by another boy in his class. He hesitated to enter into group play.

Upon arising in the morning he insisted on repeating this prayer: "Dear Lord, please do not let me have pains in school or have to go to the toilet. Please let it rain so I won't have to go out at recess and please don't let T--- fight me." Upon leaving home to go to school he had to stop at three definite places and call good-by. If the mother did not respond each time he would rush back to the house crying. He washed his hands dozens of times a day and went to ridiculous extremes to avoid touching objects and contaminating his hands. At bedtime he went through a regular ceremony, repeating "good-night, pleasant dreams," a certain number of times.

During interviews the boy was restless, excitable and distractible. He spoke of himself as "nervous" and objected that some of the psychological tests were "bad for my nerves." He was unable to explain his compulsive behavior, stating simply that he had to do those things. He washed his hands because they didn't feel clean even though he might have washed them a few minutes earlier. He attempted to manipulate test materials by

blowing parts into place or by pushing objects with his elbows.

Psychological tests showed the boy to be of very superior intelligence, with a Stanford-Binet quotient of 138 and vocabulary quotient of 147. Tests of manual performance type were done at the average level.

Repeated interviews have thus far resulted in little improvement. Efforts directed toward relieving the difficult home and school situations have not been too successful.

**Summary:** A boy of very superior intelligence, the only child of psychoneurotic parents, has shown evidences of neuropathic constitution since birth. At the age of seven years he displays well-developed symptoms typical of psychasthenia as seen in adults. The behavior pattern is firmly fixed and has not yielded to the psychotherapeutic approach. This resistiveness to treatment, of the adult type of obsessive psychoneurosis in children, has been noted by various authors.

#### THE THERAPEUTIC VALUE OF PNEUMO-ENCEPHALOGRAPHY IN POST-TRAUMATIC AND RELATED CONDITIONS

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The pneumo-encephalographic procedure is most valued as a diagnostic aid and consists of the partial or complete replacement of the cerebro-spinal fluid with air. This is usually achieved by way of lumbar puncture. It is not generally known that in certain instances this procedure has been attended by both subjective and objective improvement and the following two instances are recorded as examples of its therapeutic value.

**Case 1:** C. L., a white man 56 years of age, was admitted to the Delaware State Hospital on June 2, 1936. This patient's early development was normal except for the fact that he never attended school and did not even learn to write his own name. He had the usual childhood diseases. He suffered severe attacks of diphtheria, influenza and pneumonia. He had an arm fracture with satisfactory repair and an appendectomy. He had been a farmer most of his life. He objected to the use of alcohol on religious grounds. One day when he was about ten

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years old, he was chopping wood with his sister. When he leaned over too far, the sister accidentally struck him on the head with the axe. He was unconscious. The father stated that the brain could be seen pulsating through the wound. The father sewed up the wound with a needle and thread and bandaged it with a rag. Patient never had any medical attention. Ever since that time patient has suffered from headache, not severe enough to keep him from working but quite troublesome. Before admission to the hospital the headache had become more severe. The pain was localized over the left temporal region and was accompanied by sensations of flashing light and roaring in the ears, with extreme dizziness and attacks of nausea lasting for several minutes. At one time he became so dizzy that he fell to the ground, striking his head and remaining unconscious for hours. These attacks of dizziness have recurred at infrequent intervals. There was a gradual decrease in auditory acuity on the left side, and some decrease in vision in the left eye.

Upon admission patient revealed a marked loss of weight. Tonsils large, embedded and infected. Blood pressure was 130/90. Examination of the heart revealed nothing unusual. There was evidence of moderate peripheral arteriosclerosis. Chest was asymmetrical with depression of the lower portion due to an old injury to the ribs. There was an appendectomy scar. Otherwise abdominal examination was negative. The neurological status was as follows: There was sensitivity of the peri-orbital and occipital nerve endings to pressure, decrease in the skin sensation in the left posterior and lateral areas of the neck. Tendon reflexes were generally active without any obvious difference in the sides. The pupils were slightly unequal, the right being a little larger than the left and reacting somewhat better to light. There was slight adiakokinesis of the left fingers and a tendency to move the trunk forward in Romberg position. Urine analyses were negative except for a very slight trace of albumin on one occasion. The hemogram was normal. Blood sugar level normal. Slight increase in blood urea. Blood serology was negative and spinal fluid tests revealed no changes.

Patient seemed quite comfortable on admission. He was not concerned over his state but on questioning admitted that he had a severe and constant headache. There was some retardation in verbal response but no incoherence or irrelevancy. There was considerable emotional flattening. All mental reactions appeared sluggish but no sensory distortions or delusions could be ascertained. Patient had an encephalography on June 11, 1936. Two hundred cc of cerebro-spinal fluid were removed and 190 cc of air injected. The encephalographic findings consisted of poor ventricular air filling with most of the air found between the inner table of the skull and the brain in the upper frontal and parietal areas. The lateral ventricle showed evidence of pressure (from above) and appeared rather narrow in both lateral and frontal X-ray pictures.

Following this procedure the patient recovered very slowly and for a while continued to complain of dizziness and headache on attempts at sitting up. Twenty days after the air injection, patient was able to get up without great discomfort. He was practically relieved of his severe headache at the time of his parole on July 1, 1936. Following his parole he showed a satisfactory home adjustment with no recurrence of the annoying symptoms he had experienced up to the encephalographic procedure.

Case 2: J. S., 49-year-old white man, was admitted to the Delaware State Hospital on February 16, 1943. This patient had a normal early development. He had but a few years in school. He reads and writes a little. He has always been somewhat shy and backward. When about nine or ten years of age he went riding with some friends on a farm wagon. As they were crossing the railroad tracks, a train hit the wagon. Patient received a small cut on his head and a small injury to his leg; however, he was not unconscious and there were no immediate ill effects. Patient spent a year or more in France serving with the U. S. Army during the First World War. He said he had been shell-shocked and gassed, but no record has been available indicating that he has been hospitalized. When he first came home from the war, he was very excitable and fearful, awak-

ening in the night with "nervous spells." His people stated that he "trembled." Patient had several admissions to general hospitals between 1931 and 1936 for the treatment of carbon monoxide poisoning, hernia, compound fracture of the left lower leg and fragment (or exostosis) from old fracture union. At an examination by the military authorities in May, 1939, no psychosis or psychoneurosis was in evidence. Neurological tests revealed no positive findings.

Patient was seen by members of the Mental Hygiene Clinic on January 16, 1943, because of frequent spells occurring mainly at night. Patient was found to be sluggish during examination. He stared at the examiner and remained rigid and motionless as if trying to think. At the conclusion of the interview he suffered a convulsive seizure, perceptible tremors of the right hand and arm preceding the general convulsion. He was in semi-rigid position, all the extremities being partly fixed. There were clonic movements of the extremities and head. Whenever he was touched, he struck out blindly at the point of contact and tried to move away. When one hand was grasped, he struggled wildly and eventually broke away. The convulsive state persisted for at least twenty minutes without much diminution in activity. When finally grabbed by several men simultaneously, he quickly became exhausted in his struggles and quieted down. He did not regain consciousness for some time. The convulsive attacks were Jacksonian in nature. Apparently they have been growing more frequent and more severe during the period of time preceding admission.

On physical examination patient revealed a slight linear depression of the skull in the left lateral parietal region without local tenderness to pressure. There was a scar on the left forehead. He showed an old, healed compound fracture of the left lower leg with linear scar above the left inner malleolus. Blood pressure 120/80. The internal organs were found to be normal. The neurological examination revealed clouding of the left lens. The left eye ground could not be visualized, the right eye ground was normal. The pupils were somewhat eccentric, the left one irregular in outline and both reacting promptly to

light and convergence. Nystagmus was positive, mainly in the extreme right position of the eyeballs. The tongue deviated slightly to the right. Sensibility was normal for all qualities, and motor functions were regular. The upper tendon reflexes were moderately and equally active. Mayer negative on either side. Abdominal and cremasteric reflexes positive and equal. Patellar reflexes and Achillean reflexes moderately and equally active. No clonus. Plantar reflexes positive on either side, with extension of the reflex area. Oppenheim positive on the left side with plantar flexion of all toes, positive on the right side with moderate plantar flexion and slight spreading of the toes. Gordon positive on the left side with plantar flexion of all toes, negative on the right side. Squeezing of the left Achillean tendon (Schaefer's sign) was followed by plantar flexion of all toes but no such reaction was obtained on the right side. A spontaneous coarse trembling was observed on the right hand and fingers lasting a few minutes. Speech appeared to be normally articulated. To his knowledge patient has never been subject to spells of any sort in his childhood. He did not remember having had any before entering military service and participating in combat. At present he is aware of shaking all over when in one of these attacks. He was told that he had them especially at night when asleep, but he has no distinct personal remembrance of them except when they are occasionally preceded by a sensation of disagreeable smell (olfactory aura).

Patient had a pneumo-encephalography performed on February 4, 1943. Two hundred and twenty-five cc of spinal fluid were removed and two hundred ten cc of air injected. Ventricular filling was satisfactory and the ventricles were found to be somewhat larger than normal with a very slight asymmetry in size and position. There was no pineal shift. There was normal filling of the sub-arachnoid spaces throughout except for increased air density in the right parietal region indicating cortical atrophy, possibly traumatic in origin. Spinal fluid pressure was 27 but there were no abnormal findings in the spinal fluid otherwise. Patient has been free of any convulsive or epileptiform

manifestations since encephalography was performed, even though he has not received any anti-convulsive medication.

#### SUMMARY:

Two patients with the diagnosis of post-traumatic disorder are presented in whom pneumo-encephalography was followed by subsidence of annoying symptoms such as headaches, dizziness and convulsive seizures. This relation is brought out to demonstrate the value of the pneumo-encephalographic procedure as a therapeutic means in the treatment of various disturbances associated with traumatic cerebral involvement. It is of interest to note that in both instances the pressure and amount of cerebro-spinal fluid were distinctly increased.

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#### MENTAL ILLNESS AND MILITARY SERVICE

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It is generally agreed that persons predisposed to abnormal mental reactions are unfit for military service. Various means are in use to sift potentially inadequate subjects which would become a liability to the armed forces. Dependence is placed to a large extent on the sincerity of the draftee in filling his various questionnaires and in giving information to those who are expected to pass judgment on his suitability for military service. It is felt that snapshot interviews and psychological tests cannot solve entirely the problem under discussion and that sound psychiatric experience and advice are prerequisites for adjusting a situation which has led, in many instances, to misunderstanding and resentment on the part of the relatives of those discharged from military duty owing to some mental ailment.

We have been interested in these cases because they seem to clarify the difficulties with which the examiners have to cope, and the shortcomings of defective "selection" methods.

The Delaware State Hospital has, since the introduction of military conscription, received a total of sixteen one-time members of the armed forces. The most typical (12) cases

are chosen to demonstrate to the interested practitioner the factors most often encountered in the defective recognition of mental imbalance as applied to the problem of military induction. These cases are arranged in five arbitrary groups with certain common determinants typical of each.

Among the selected material we encountered three patients who had been previously admitted to our hospital.

Case 1: R. B., 22 years of age, readmitted on April 11, 1942. Both parents were addicted to alcohol. The mother was of low intelligence and known to be promiscuous. Patient had cholera infantum at the age of two years with stuporous state. Enuresis existed until 11 years. He never progressed well in school, repeated the second grade four times. He was undisciplined and frequently played truant. His first admission took place on November 7, 1932, on court order because of alleged shooting of his father. General behavior varied considerably with frequent impulsive and violent episodes, tendency to conceal sharp objects and to threaten with vindictive acts, sulky states and inclination to minimize the seriousness of his outbursts. He was unreliable and invariably broke his promises. Following his last escape in August, 1939, he was kept on the parole list. When at large, he indulged in drinking and promiscuity. He was temporarily held in jail on charges proffered by his mother.

He managed to join the National Guard in November, 1940, and enlisted in the Army January 10, 1941. After going AWOL in October, 1941, he returned to camp voluntarily, was court-martialed and sentenced but received pardon upon outbreak of the war. He was in frequent trouble with the military authorities for disciplinary failures and was placed under medical observation in December, 1941. He was discharged in March, 1942, and transferred to the Delaware State Hospital. Since his return he showed a defiant attitude, broke rules, had temper outbursts and actually set fire to his room. He committed suicide on January 13, 1943. Though this case was always quite problematic, it was generally agreed to be one of psychosis with psychopathic personality. Patient was a non-verbalist of dull-normal intelli-

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gence, according to his last psychometric test of May 18, 1942.

Case 2: E. P., 21 years of age, readmitted on August 28, 1941. Family antecedents non-contributory. Patient reached the 8th grade at the age of 16. He was inefficient in his work, lacked initiative, appeared lazy. He was laid off in November, 1937. Thereupon he joined the CCC Camp in 1938. He was under medical supervision with complaints of dizziness and shortness of breath for two months. He was possibly unconscious for five minutes following a car accident resulting in a laceration above the nose. A change of behavior was noticed afterward, with suspiciousness and ideas of reference. He refused to go back to work, became preoccupied, unresponsive and emotionally rigid. It was learned that he committed acts of perversion on a dog and cat. His first admission was on April 17, 1940. He appeared stuporous, episodically excited and noisy; occasionally untidy. He improved after a series of metrazol treatments. He was paroled on January 8, 1941. While home, he helped with the housework, but gradually became defiant and inactive; said he was Superman, controlled by supernatural powers. He joined up with the Marine Corps in June, 1941, forcing his parents' consent with threat of escape. Patient was referred to the Naval Hospital with complaints of dizziness, headache and nausea. He became increasingly withdrawn, suspicious and inactive. He was discharged and transferred to the Delaware State Hospital on August 28, 1941. As claimed he reported ill after two weeks of drilling on account of dizziness and returned to his unit for a short while before he was permanently hospitalized. Provisional diagnosis: Dementia praecox, catatonic type.

Case 3: S. R., 35 years of age, was readmitted on February 13, 1943. Familial antecedents and early development non-contributory. He had three years of High School. He worked as a bookbinder; was laid off in 1930. During the following period, he became sensitive to criticism for inability to find employment and means of self-support. He had short depressive episodes in 1933, recurring in 1936. On February 15, 1938, he lapsed into a state of deep depression when

refused a job which his brother got. He appeared dull, apathetic and inclined to blame his failure on others; considered suicide. His first admission was on April 2, 1938. Under observation patient was depressed, hallucinated in the auditory sphere, temporarily agitated, but coherent and relevant. Herniotomy was followed by an aggravation of the depressed state. He showed gradual improvement and was paroled August 26, 1938. Recurrence of depression, precipitated by unemployment, prompted his return to the hospital on April 25, 1939. He was paroled again on August 16, 1939. On February 18, 1940, patient was brought back to the hospital in a hypomanic state. He was mocking and resentful of pack treatments, became threatening and impulsive. After a series of metrazol treatments he was again paroled as recovered on June 15, 1940. He enlisted in March, 1941, serving with the Signal Corps. On a furlough in October, 1942, he appeared dissatisfied and reticent to his parents. In December, he was reported mentally ill to his father and discharged from military service. He continued depressed at home and was returned to this hospital by his father. At present he is receiving electro-shock treatments and is improving. Diagnosis: Manic-depressive psychosis.

The next group under discussion consists of cases with convulsive disorder:

Case 4: W. S., age 34 years, was committed to this hospital July 8, 1942. His father suffered with fainting spells. Epileptic seizures were said to have started at the age of six after being hit by a snowball. He had to repeat the third and fourth grades, reaching the 7th grade in school at the age of 16. He worked as a laborer. He was frequently moody on account of his spells. After three years' service with the National Guard, he received an honorable discharge on the grounds of epilepsy. He was classed 1B for bad teeth and inducted May 14, 1942. Patient claims he told the draft officials of his attacks. His seizures were soon observed and led to hospitalization on account of symptoms of confusion. At that time he was subject to auditory hallucinations, hearing the voice of his mother, etc. He was transferred from the camp hospital to this institution. He pre-

sented no evidence of psychosis here, but had several epileptic seizures. He was paroled on September 1, 1942.

Case 5: S. L. M., age 20 years, was committed to this hospital December 31, 1942. Birth was full term with forceps delivery. He was a "blue baby", requiring artificial respiration. There is a history of two accidents to his head. The first one occurred in October, 1931, at the age of 9 when he was knocked over by a stranger on the street; the second was due to a baseball hit with unconsciousness and hospital treatment for concussion in May, 1940. At the age of ten he suffered with brief attacks of petit-mal appearance, had frequent falls. He was at the Mayo Clinic in 1940, but treatment was not followed by any striking change. While living in Minneapolis in 1941, he joined the Marine Corps and was sent to the West Coast. He was discharged from service as physically unfit about two months following his induction on account of his seizures. On Christmas, 1941, his attacks recurred with greater frequency and severity and were marked by localized twitchings, peculiar noises, and absence of frothing or incontinence. Under observation he was irritable, sensitive and quarrelsome, but offered no definite psychotic symptoms. A pneumo-encephalogram revealed distinct abnormalities of the ventricular structure.

The third group consists of cases with familial incidence of mental disease, but no pre-induction psychosis.

Case 6: C. S., age 22 years, was committed November 12, 1941. His father has been a patient in this hospital since April, 1935, with a diagnosis of dementia praecox, paranoid type, associated with post-encephalitis. One paternal uncle was admitted with dementia praecox, paranoid type on Jan. 27, 1931, and discharged June 30, 1935.

Patient had difficulties in school adjustment due to speech defect and sensitiveness about his father's illness. He was shy, worrisome, easily upset over trifles, avoided contact with the opposite sex. At the age of 18 he graduated from High School. He was steadily employed as a laborer in a fibre mill. He was inducted Jan. 9, 1941. On May 26, 1941, he was taken ill and admitted to the

camp hospital with symptoms of silly, overactive, bizarre behavior, grimacing, and untidiness. He had to be treated for self-inflicted skin lesions. He was seclusive, careless in his habits, impulsive and destructive, untidy and disrobing. His speech was fragmentary and iterative. He received metrazol treatments, improved and was transferred to this hospital with a diagnosis of dementia praecox, hebephrenic type. While in this institution he was emotionally rigid and lacked insight into his previous therapeutic experiences. He adjusted fairly well and improved, obtaining parole in January, 1942.

Case 7: A. M., age 19 years, was committed to this hospital January 21, 1943. One brother was hospitalized twice with manic attacks in 1938 and 1940. Patient had three years of High School. After joining the National Guard for one year, he entered into army service. He was placed under psychiatric care at a station hospital for a depressive state and discharged on March 19, 1942. He could not adjust at home, was unable to hold a job and was once arrested for breaking and entering. Two weeks before admission he became excited, talkative, quarrelsome, had crying spells and developed into a frank manic phase. He improved with electro-shock treatment, however had a brief relapse. Diagnosis: manic-depressive psychosis.

The fourth group is characterized by mental difficulties developing prior to induction without known familial incidence of insanity.

Case 8: A. T., 24 years of age, was committed to this hospital October 19, 1942. Patient graduated with honors from High School at the age of seventeen. He went to Drexel College for a short period; also took a business course at Beacom's College. He was studious, serious in his thoughts and reserved. He was employed as bookkeeper and accountant but was discharged because of mental symptoms. He believed people were picking at him and tampered with his ear, preventing him from being prompt, and were jealous of him. Following his induction on October 16, 1940, he remained in different camps for a few months before breaking down. Mental symptoms became evident first on March 31, 1942, with odd somatic complaints and hallucinations dealing with per-

verse sexual acts. Voices accused him of stealing and lying. In April, 1942, he revealed feelings of unreality, lack of concentration and fragmentary speech. He was, then, diagnosed dementia praecox, paranoid type. He went through several mental observation stations and was finally removed home by his sister. As she was soon enough aware of the fact that she could not cope with his problems efficiently, she brought him to this hospital for electro-shock treatments which unfortunately did not bring about any satisfactory response.

Case 9: H. G., age 31 years, was committed to this hospital January 5, 1943. There is no familial incidence of psychosis. Patient had an instrumental delivery, a slight delay in walking and talking and suffered with enuresis. Nail biting has been a constant habit with him. He was no problem in school until he reached the higher grades. Then he had to repeat two grades, and completed two and one-half years of High School at the age of 19 in 1930. He worked steadily in a grocery store. Previous to induction he worked as carpenter at an airport. He never formed any close friendships; was withdrawn, shy, quiet, and disinterested in social affairs. He had a fainting spell on Jan. 30, 1941. On November 24, 1942, he was inducted into army service. Within four days he was sent to the station hospital for psychiatric observation, and diagnosed dementia praecox, catatonic type. He was discharged into the custody of his father. While home, he appeared apathetic and depressed. His appetite and sleep started to fail. A day previous to admission he was found in the process of an incestuous act upon his sister. This precipitated his commitment. Under observation he was inhibited in his response, fearful and emotionally rigid. He showed a satisfactory remission under electro-shock therapy.

Case 10: J. S., 22 years of age, was committed to this hospital Sept., 1942. Patient is a twin. He was a school problem, very emotional, disrespectful, was brought to the attention of the Mental Hygiene Clinic in 1933. At that time he was believed to be mentally retarded, however, on recent tests he was found to be a non-verbalist of dull-normal intelligence. He reached the 8th

grade in school. He worked in shirt factories and a weaving mill. He was inducted into army service Jan. 28, 1942. Within a short time mental symptoms appeared. He believed people called him names, refused to eat, had to be tube-fed and rejected pay checks. He was discharged in May, 1942, and placed under his father's care. He remained depressed; was afraid to leave home because of people making fun of him. He started working but had to be discharged because of over-active behavior. He indulged in grandiose plans. Under clinical observation he was agitated, overproductive, irritable and accusatory. He improved under electro-shock treatment, is fairly well adjusted at present and enjoys short home paroles.

The fifth group is concerned with individuals combining features of familial and pre-induction incidence of insanity.

Case 11: T. O., 27 years of age, was committed to the hospital Dec. 2, 1941.

Mother and half-brother of patient committed suicide by gas. Two of patient's sisters were in ambulatory care of the Mental Hygiene Clinic. Both are of low intelligence.

Patient reached the fifth grade at age 14. His court record consists of various charges such as breaking and entering, trespassing, malicious mischief, mistreatment of his sister, and larceny. He is of dull-normal intelligence. After enrolling in a CCC Camp in October, 1934, he was discharged on account of desertion. Though unemployed for many years, he held a job in a leather factory previous to induction. He entered army service in October, 1941. He worried about his draft situation for several months and hoped he would not pass the physical examination. He cried frequently. His marital plans were counteracted by the dissent of his girl friend's mother. He grew more worrisome when passing the physical test. Upon arrival in camp he was placed under psychiatric observation, had auditory hallucinations of religious content. He attempted suicide three times. He became more self-centered and childish. His diagnosis, then, was dementia praecox, hebephrenic type. He was discharged on Nov. 15, 1941, and returned to his parents.

Under observation patient continued depressed, hallucinated, caused a self-injury to

his chin to punish himself, had feelings of guilt and religious delusions. He recovered within two months under conservative care. Diagnosis: manie-depressive psychosis, mixed type. He was paroled July 18, 1942.

Case 12: D. S., 23 years of age, was committed to this hospital May 12, 1942. There was constant parental discord apparently due to the mother's paranoid tendencies (jealousy, false accusations, etc.), leading to separation.

Patient is very intelligent, graduated from High School at the age of 19. He never had any close friendships; was always opinionated and stubborn, was described as disinterested in the opposite sex. He could not hold jobs for any length of time because he considered himself superior and tried to advise his employers. His call to the army upset him. He bought a car but was unable to finish his payments. He was inducted during the first part of 1941. He was under medical observation from December 18, 1941, until May 7, 1942, when he was turned over to his father's care. While home he appeared incoherent, talkative, paranoid and threatening.

Under clinical observation he appeared euphoric, talkative with fragmentation and dissociation of ideas, though in fairly good contact with the environment. He improved under electro-shock treatments and was paroled on Sept. 18, 1942. Diagnosis: dementia praecox, paranoid type. He is, at present, working in an aircraft plant.

#### SUMMARY

From these case histories, gathered over a long period of time, it seems to be appropriate to conclude that definite factors of psychobiographic importance were overlooked, or paid insufficient attention to, in the cited instances. The correct knowledge and evaluation of these factors would, in all probability, have resulted in the avoidance of trouble and hardship, in a better social and economical adjustment, and in a more satisfactory utilization of human life in the interest of the war effort.

In our minds the five groups we have arbitrarily differentiated demonstrate clearly the inherent weaknesses of the personalities bound to break down under the influence of the change in their life situation.

It seems to us that the tenets of preventive psychiatry could have been easily applied and observed. Instead, mentally ill and potentially ill have been exposed to unnecessary strain and experiences seemingly harmful to them. Of course, it is most likely that even without the mental stress imposed by the emergency situation such individuals have a fair chance to develop a psychosis due to peacetime competition and poor capacity for adjusting their life even to so-called normal conditions. This should be a consolation to all those who are inclined to find fault with existing systems of elimination procedures.

The practical result of our investigation is the emphasis on detailed study of those features of personality structure and development which are liable to be dissimulated by the draftee and to be inadequately explored by the examiner. It would be of infinite value to the examiner to gain access to such sources of information as school, court, employment and institutional records will provide, and which, as long as untapped, remain a worthless treasure. Neither should one forget the importance of the family physician whose knowledge of more intimate conditions can offer a helpful contribution to the tracing of obscure danger moments. It will be necessary to utilize methods which will bring out:

- (1) the hereditary taint and familial background,
- (2) the (pre-psychotic) personality characteristics,
- (3) previous abnormal mental tendencies and acute psychotic periods of selectees, and to foster the understanding of these factors by all those concerned with the correct placement of the future members of the armed forces.

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#### ALCOHOL AND SUBDURAL HEMATOMA

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In presenting two cases which showed symptoms of brain damage as sequence to trauma after alcoholic indulgence it is clearly evident that careful consideration of the clinical symptoms as well as psychotic manifestations has to be made. Frequently the

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diagnosis of psychosis is made and the patient committed to an institution as they show restlessness, irritability and delirious symptoms due to brain damage. Some mild neurological manifestations may also be present as incomplete aphasia, cortical irritation, convulsions or hemiparesis. Oculomotor palsies are sometimes encountered, as well as homonymous hemianopia. Anyhow, the diversity of symptoms should also lead one to suspect subdural hematoma or subarachnoid hemorrhage if post-traumatic features and psychotic manifestations are combined. Quite often symptoms of brain concussion are encountered also. The laboratory reports, with the exception of the spinal fluid findings, might be insignificant. We know that in subdural hematoma we have sometimes only mild changes of the spinal fluid. It might be clear or it might show only a yellow tinting. On the other hand in subarachnoid damage we see a red-brown or yellow-orange colored fluid or a real bloody mixture. Therefore, it is comparatively easy, on account of the spinal fluid findings, to differentiate both conditions even if differentiation is sometimes unimportant from the mere clinical standpoint.

#### REPORT ON CASES:

**Case 1: P. F.** The family history in this case shows no nervous or mental diseases with the exception of patient's son who was committed to this hospital in 1942 and diagnosed psychoneurosis, reactive depression. He has three siblings who are all in good health. The personal history of patient is relatively unimportant. He was always an even tempered man and had a cheerful and sociable disposition. He had only few outside interests, usually stayed around the home. He had no injuries, operations or convulsions prior to his recent accident. He worked as a plumber and was considered a very steady and dependable worker. It was stated that patient drank at times quite excessively, going on a drinking spree on his weekend, consuming large amounts of whiskey. For long periods of time he stayed entirely sober.

Two weeks before his admission to this hospital he went on a drinking spree and it was known that he drank quite heavily at that time. He returned home on May 4th. He appeared very sick, refrained from going to

work and stayed around the house. He was unable to swallow and it was extremely difficult to get him to take any food except some liquids. It was hard to keep him in bed as he appeared very restless and confused. On May 7th he managed to get up and fell down the stairway. As he was badly cut up, he was taken to a hospital and treated in the emergency department for multiple lacerations of the face and nose as a result of the fall, ten sutures had to be placed. After his discharge from the hospital, he became more and more confused, seemed to be stuporous and could scarcely swallow anything at all. He was seen by two physicians and committed to the Delaware State Hospital. His commitment papers states "states he has a large farm in Dover. This is false. Muttering and disoriented as to time and place. Face and head lacerations from fall. No alcoholic breath. No alcohol for four days. Disorders of memory. Incoherent and delusional. Intemperate about once yearly for one week."

Patient was brought to the hospital in the late afternoon by police officers who said he had recently been on a prolonged alcoholic spree and seemed to be greatly confused at the present time. It was noted that his speech was thick, that he was unable to give any data and appeared very unkempt. He had a large dressing on his forehead and the bridge of his nose. Pulse was regular but of poor quality. Summarizing the observations, it was believed that patient still showed some symptoms of acute intoxication but that other physical factors may play an additional role in bringing about the present picture. When seen later on the ward, patient presented the picture of severe shock, apparently due to brain damage and was in a semi-stuporous condition. Careful examination revealed bruises all over his body and especially of both knees. He had a deep cut, about three inches long, over the middle of the forehead which did not give the appearance of a compression fracture. There was another cut on the bridge of the nose and the bone seemed broken. His mouth hygiene was considerably neglected, tongue dry and coated, skin clammy, temperature subfebrile. No odor of alcohol on his breath. Breathing extremely shallow and chest showed scarcely any expansion on ex-

piration. Heart within normal limits, action regular but sounds very faint and distant. Pulse was of extremely poor volume, not perceptible on the left arm, poorly perceptible on the right arm. Blood pressure on admission was, on the left 60/0; on the right 60/40. The same evening 65/0 on the left, and 65/40 on the right arm. The next day the blood pressure was 40/0 on both arms. Pupils were mildly dilated and reacted very sluggishly to light and accommodation. The motor functions were considerably slowed down. Upper tendon reflexes normal; knee reflexes abolished and there was a slight clonus of the left foot. He showed a slight tremor of the eyelids; speech thick and hardly understandable and he had lost control of his organic reflexes. When first seen he spoke a few incoherent words but could be barely understood; was fumbling around with his hands and appeared for a while quite restless. He received at once stimulants, saline and glucose intravenously and his condition improved slightly so that he was able to take small amounts of liquids. After several hours he showed again circulatory collapse and stimulants and infusions were given again. The next day his condition appeared extremely critical and he showed all the signs of acute circulatory failure. He responded very poorly to all therapeutic measures and under the signs of progressing collapse expired at 10 a. m.

The history on patient is extremely fragmentary and, though it is known he was intoxicated several days before his accident occurred, it is believed that at that time he suffered only the sequelae of his former alcoholic indulgence. It cannot be stated from the history that patient experienced a form of delirium tremens but rather had apparently an acute aleoholic hallucinosis. He was confused and physically disabled. He had suffered a cerebral accident from his fall and, though no symptoms were noted at first, he later showed all signs of circulatory collapse due to shock and brain damage. The laboratory findings were insignificant and spinal puncture was not done on account of patient's precarious condition. A tentative diagnosis was made of subdural hematoma which was later confirmed by an autopsy carried out by the coroner. It is evident that patient suf-

fered from a confused state due to organic brain damage (subdural hematoma with circulatory collapse).

Case 2: E. M. Family history is non-contributory with the exception that a cousin was a patient in the Delaware State Hospital in 1927 and was diagnosed as dementia praecox. Patient was born 51 years ago and was always known as a friendly and sociable person. Also he was somewhat withdrawn and never inclined to discuss personal affairs with any member of his family. He never had any ambition and showed no initiative and did not accomplish anything during his life in spite of a good mental endowment. He never has been in any serious difficulties with the law, although he has been arrested on several occasions for drunkenness and disorderly conduct but generally just detained in jail overnight and was let go after he had sobered up. Most of his money, which he earned by doing odd jobs, was spent on liquor and wine. He never had any serious illnesses in his life but several weeks before his admission, patient had two or three convulsions while he was on a severe aleoholic spree. It was acknowledged by himself that he had his first convolution two years ago after he was severely intoxicated. His drinking habits started quite early and he is said to have drunk quite heavily for many years. He did not annoy his family when drinking and preferred to stay away from home until he sobered up. He even tried to keep his family from being aware of his drinking by hiding bottles around the house.

According to the information obtained, his present illness was the first time he was known to have had delirium tremens but during the convulsions, which occurred before, he was known to be hallucinated. He saw people, jumping around the house and was extremely frightened. The night prior to his admission to this hospital, patient tried to jump out of an upstairs window but his father managed to drag him back. He was talking in a confused fashion and suddenly grabbed his coat and shoes and ran out of the house carrying them. Later he was picked up by the police and consequently admitted to this hospital. Commitment papers stated "he was brought to the Wilmington Police Station this

A. M. with evidence of alcoholism. This man is perspiring freely and in a sick condition. Delusional, hallucinations of sight, inclined to be violent at times. Alcoholic. Duration of attack before admission—several days."

Physical examination on admission showed a middle-aged male who was completely dehydrated and emaciated. Skin of right leg markedly bruised and discolored and showed several eroded areas. There was a deep, about two-inch wide, laceration in occipital region of the head which had to be sutured. He showed numerous scratches on his hands. Heart was within normal limits; heart action regular; blood pressure 138/86; pupils moderate in size, react to light and accommodation; both discs were very difficult to outline and were somewhat blurred; gait imbalanced and staggering. Deep tendon reflexes were all normally active and no pathological reflexes were discovered. He had a coarse tremor of both hands and was dysarticulate on test phrases. Laboratory reports showed normal findings with the exception of the spinal fluid which was bloody tinged and showed a slightly elevated colloidal gold curve. The spinal tap was repeated six weeks after admission and the spinal fluid was completely clear and colloidal gold curve flat.

Upon his arrival at the hospital he was extremely noisy, fidgety and nervous; dirty and unkempt in appearance, shaky and confused; disoriented for time and place, and unable to volunteer any information. After a while he quieted down but still remained very restless and agitated and voided several times involuntarily. After about four days he started to clear up, gradually became cooperative and quiet but remained for a long time somewhat gloomy and peculiar. On admission he was vividly hallucinated and delusional, seeing all kinds of animals and men in his room and was extremely fearful that somebody wanted to kill him. These delusions and hallucinations disappeared completely after he got over his psychotic episode and his organic damage.

In summarizing, it could be stated that patient had an acute alcoholic psychosis but that his symptoms were overshadowed by a subdural hematoma and brain concussion that he had suffered by falling on his head before

admission and sustaining a deep laceration on the back of his head.

#### SUMMARY:

Careful consideration and differentiation of subdural hematoma and alcoholic psychosis, delirium tremens or other psychotic manifestations in alcoholics is very important from an individual, social and economic standpoint. A careful psychiatric, as well as clinical examination, should enable us to demonstrate intellectual impairment in cases of subdural hematoma in spite of trivial neurological findings. It is, therefore, imperative to use all the possibilities of our diagnostic armamentarium to recognize cases of brain damage in patients with a history of alcoholism and many lives can thus be saved.

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### ON THE MANAGEMENT OF PSYCHOTIC DIABETICS

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The traditional therapeutic concept regarding diabetes mellitus is based upon the absolute control of hyperglycemia and glycosuria. This concept has been contradicted lately in view of new experimental and clinical experiences. Mosenthal, (1) in 1935, advocated a liberal interpretation of hyperglycemia in the treatment of diabetes mellitus since "hyperglycemia without glycosuria, according to available evidence, not only has no damaging effects on the heart or other tissues, but it is a necessary stimulus for the proper assimilation and oxidation of dextrose in many persons, both diabetic and nondiabetic." Edward Tolstoi (2) and his collaborators observed that their patients did physically very well on one daily dose of protamine zinc insulin in spite of hyperglycemia and glycosuria. Their studies on clinical and ambulatory patients showed that sufficient utilization of carbohydrates regardless of the excretion of sugar in the urine manifests the essential principle in the therapeutic management. "Glycosuria," says Tolstoi, "has been such a dominant component in the treatment of diabetes that the more important factor of utilization has been almost totally ignored." His therapeutic interest is shifted from the quantity of sugar excreted to the quantity of

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sugar metabolized. Tolstoi's patients, therefore, were kept on very liberal diets. He postulates as guiding principles in the treatment: (1) maintenance of weight; (2) absence of ketone bodies; (3) freedom from thirst, polyuria, hunger, weakness, pruritus, visual disturbances. Treatment consists of one daily dose of protamine zinc insulin. Elliott P. Joslin opposes this view with great emphasis. He believes that hyperglycemia is "fundamentally an abnormal state" which must be controlled by all means. Tolstoi could show, however, that his patients did physically as well, if not better, as those treated according to the orthodox method. Extensive metabolic studies did not reveal any harm derived from prolonged glycosuria.

A discussion of the physiological problems involved in the controversy between the orthodox and the new concept would be beyond the scope of this preliminary report of two cases treated by the new method. It may be merely pointed out that the whole problem involves the need of the cells of the diabetic organism for glycogen. The diabetic state has been called a paradoxical situation, in which the cells are in greatest need of glycogen while surrounded by a milieu tremendously rich in sugar, i. e. hyperglycemia. Minkowski was the first to suggest that hyperglycemia may not be a passive but rather an active mechanism, with the help of which the organism tries to compensate for the difficulty of glycogen formation. Staub, applying the "law of mass action" upon the equation glucose: glycogen means that the compensatory elevation of the blood-sugar level outside the cell accelerates the intracellular glycogen formation. Hyperglycemia, thus, becomes a self-regulating process, permitting the utilization of glucose in spite of the insulin deficit. It is therefore, evident that a rational therapy must be based upon the essential fact that the cells of the diabetic organism are in need of glycogen and that the greatest possible utilization of carbohydrates is to be accomplished. This is the case if the "carbohydrate-balance" (Brentano), i. e., the difference between the intake of carbohydrates and the excretion of sugar in the urine, is as great as possible. If an increasing amount of carbohydrates can be utilized in

the organism, glycosuria becomes a matter of secondary interest.

Tolstoi's patients enjoy a great deal of freedom since they have only one daily injection of protamine zinc insulin and live on quite liberal diets. The management of psychotic patients, suffering from diabetes, is often confronted with great difficulties since the patients do not cooperate for lack of insight into their condition. Any simplification of treatment procedures appears, therefore, most desirable and worth a trial. It was decided to select two cases and to put them on one daily dose of protamine zinc insulin, to give them a liberal diet and to observe them for the three criteria as postulated by Tolstoi. Both cases suffer from a chronic type of psychosis and are continuously confined to the ward. This has the advantage of having them under the closest possible supervision. Each patient was treated in this manner over a period of at least 14 months. The following report is preliminary since a number of laboratory studies, not included in the regular routine procedure of urine analyses and blood sugar determinations, could not be carried out on account of the acute shortage of available laboratory technicians. It is, nevertheless felt, that the data as reported are adequate in demonstrating the usefulness of the method under consideration.

Case 1: S. S., is a 65-year-old Jewish woman of Russian nativity who came to this hospital in 1929 suffering from a manic psychosis, chronic in its course. She is illiterate, of limited intelligence and has little insight into her situation. This patient is a very active type of person who works on the ward and becomes disturbed if not kept occupied. Constitutional characteristics are pyknic habitus, obesity, vascular hypertension, varicose veins and diabetes mellitus. Patient's history is entirely non-contributory. The diabetic condition was discovered upon routine urine examination on November 21, 1941, when the urinalysis revealed 5% sugar. Blood chemistry revealed the blood sugar level to be 345 mg per 100 cc. Patient offered no complaints and no clinical symptoms such as thirst, polyuria, weakness, pruritus, somnolence, dimness of vision, furunculosis, or neuritis were apparent. Her appetite was

marked and she became quite uncooperative when placed on a restricted diet. Sixty-five units of regular insulin were given in three doses preceding the regular meals. Patient's urine became free of sugar and her blood sugar gradually came down to 251 mg per 100 cc (11-25-41); 157 mg per 100 cc (12-9-41) and 142 mg per 100 cc (12-23-41). Patient's diet at this time was restricted to 1500 calories and she constantly demanded more food.

At this time the following question arose: should it be the main objective to treat this patient in the conservative fashion by preventing glycosuria and keeping her blood sugar level within normal limits or would it seem wiser to try her on the management as outlined by Tolstoi. It was decided to put her on one daily dose of protamine zinc insulin, to give her a more or less regular diet, and to keep her free from ketonuria and from clinical symptoms of diabetes. Whereas Tolstoi recommends his management in order to keep his patients from being singled out as a group apart from their fellow men by having their habits of living approximating the normal ones, the consideration in this case was to keep a fairly adjusted psychotic patient from becoming disturbed. The advantage of continuous supervision and laboratory facilities justified the trial. Patient became very pleased when the regular hospital diet was reinstated. Her weight at this time was 212 pounds. She received a daily dose of 45 units of protamine zinc insulin, which was started on December 30, 1941. Blood sugar level at this time was 145 mg per 100 cc and the urine was found to be negative for sugar.

The next blood chemistry was taken on January 6, 1942, at which time the blood sugar level was found to be 111 mg per 100 cc and 85 mg per 100 cc on January 13, 1942. Several urinalyses taken at this time were negative for sugar, but numerous specimens were slightly or moderately positive, varying between 0.9 to 1.3%. A blood sugar analysis on February 10, 1942, revealed a blood sugar level of 104 mg per 100 cc. Patient began to gain weight (220 pounds on 3-1-42 and 225 pounds on 4-1-42). The highest blood sugar encountered during this period was 157 mg

per 100 cc (3-10-42). There was no ketonuria noticed at any time and patient was entirely free of clinical symptoms. In June, 1942, it was decided to put her back on a restricted diet to avoid further gain of weight. Patient at once became uncooperative and it was increasingly difficult to manage her. Being an overactive type of person, she needed a normal caloric diet and she instinctively fought for an adequate amount of food. By the end of August, 1942, she weighed only 197 pounds. Her blood sugar during this dietary restriction varied between 173 and 98 mg per 100 cc. Patient, however, became increasingly nervous, irritable and demanding, and she was put back on a regular hospital diet at the end of August. She immediately began to gain weight and had regained 18 pounds by the end of the first week of October. She received U-40 protamine zinc insulin at this time and glycosuria varied between 1 to 1.3%.

Blood sugar levels in October and November varied between 97 and 137 mg per 100 cc. Patient's weight on November 3, 1942, was 214 pounds. She appeared well adjusted and was content on a regular diet and one daily dose of U-40 protamine zinc insulin. Only on one occasion, namely on Christmas, did it become necessary to give patient additional doses of regular insulin. At this time it was discovered that her blood sugar level had gone up to 394 mg per 100 cc, with as much as 3.3 sugar in the urine December 29, 1942. Patient had stolen boxes of candies from other patients and had eaten as much as two pounds a day between December 26th and 29th. By January 1, 1943, patient was back on her regular daily dose of protamine zinc insulin and, on January 5, 1943, blood sugar was 123 mg per 100 cc. Patient's weight varied between 218 to 212 pounds during the months of December and January. The only hypoglycemic reaction during these 15 months of treatment occurred on March 26th, when patient was found to be restless, semi-stuporous, perspiring profusely and clammy. She responded promptly to routine procedures. This reaction was explained by the fact that she had a gastric upset with diarrhea and vomiting which had deprived her of the full utilization of two meals.

*Comment*—This patient has been entirely

free from ketonuria and from clinical symptoms of diabetes. She has been receiving a regular hospital diet which is rather rich in carbohydrates. Patient eats two or three potatoes with meat and vegetables for dinner, insists on eating three slices of white bread with each meal and eats puddings or sweet desserts approximately three or four times a week. It was not attempted to free patient from glycosuria in order to permit sufficient metabolism of carbohydrates. The fact that patient remained entirely free of clinical symptoms of diabetes, felt extremely well throughout these 15 months and had no colds or diseases of any kind, justifies the conclusion that this type of management proved superior to the conservative type of treatment which could not have established better clinical results and would have caused severe maladjustment in patient's behavior.

Case 2: The new 61-year-old patient, A. D., was admitted to this hospital in August, 1938. She is of Italian nativity, is illiterate and had become severely psychotic following the amputation of one leg due to gangrene caused by severe diabetes and arteriosclerosis. She lived in constant fear of losing the other leg, screamed and hollered continuously, cursed God and her family and continued to live in a constant state of agitation. This patient was particularly hard to manage since she would become extremely disturbed after every single hypodermic injection of regular insulin. She also developed the idea that she was to be starved to death when food outside of her restricted dietary regime had to be refused to her. She was paroled against the advice of the hospital in January, 1939, and was re-admitted in May, 1940. Blood sugar levels at this time were found to be 207 (6-6-40), 197 (6-13-40), 337 (6-20-40). Urinalysis revealed glycosuria varying between 0.83 to 2.5%. She was treated with varying amounts of regular insulin and with a restricted diet, according to conservative concept. Glycosuria became practically absent but blood sugar levels varied between 135 to 268 mg per 100 cc. Blood sugar levels at the end of 1941 varied between 180 and 234 mg per 100 c. Patient's constant agitation and non-cooperation seemed to justify a change in management.

In January, 1942, she was put on one daily dose of U-40 protamine zinc insulin and she was permitted to receive the regular hospital diet. Since this patient has been eating two to three pieces of white bread with each meal, two potatoes and vegetables with meat for dinner and desserts and puddings three or four times a week with her supper. About once a week she eats special Italian dishes such as spaghetti with meat balls, brought to her by visiting members of her family. Blood chemistry on January 13, 1942, revealed a blood sugar of 129 mg per 100 cc, of 115 (1-27-42), 126 (2-10-42), 157 (3-3-42), 99 (3-24-42), 98 (4-14-42). Urinalyses taken before breakfast were mostly negative for sugar, while positive when taken after meals. A pyoderma process involving one ear and the big toe healed rapidly during the first two months after the new management was instituted. The highest blood sugar revealed during the year of 1942 was 176 mg per 100 cc (7-28-42). The majority of blood sugar determinations revealed findings within normal limits. The last blood sugar, taken on March 30, 1943, was 102. Patient's weight could not be determined due to her crippled condition. There was no ketonuria noted at any time and patient seemed remarkably well physically.

*Comment.* Most interesting in this case appears to be the fact that patient practically ceased to have hyperglycemia since being put on a regular diet rich in carbohydrates. This seems to be in accord with the theory that hyperglycemia is a compensatory mechanism which becomes unnecessary provided sufficient metabolism of carbohydrates is permitted. No attention was paid to glycosuria after meals. There was practically no glycosuria in specimens taken before breakfast. Patient has not had any colds, infections or diseases of any kind throughout these 13 months. There has been no evidence of progressive arteriosclerosis and she has not shown any clinical symptoms of diabetes. Patient has never received any additional regular insulin and the daily dose of protamine zinc insulin has been decreased to 30 units. Multiple injections of insulin aimed at a normal blood sugar failed to produce a satisfactory clinical result, whereas a single dose of

protamine zinc insulin, with no attempt to abolish glycosuria, produced an excellent clinical state.

#### SUMMARY:

This is a preliminary report of the management of two psychotic diabetic patients in whose case glycosuria was disregarded for over one year. Both patients received regular diets, rich in carbohydrate content, with a single daily dose of protamine zinc insulin. They have been entirely free from ketonuria and clinical symptoms of diabetes and have been in excellent physical condition throughout this time. The advantage of this management for uncooperative psychotics suffering from diabetes has been demonstrated.

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### THE PSYCHOLOGICAL EXAMINATION OF INFANTS

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David was picked out from a large group of one-year-old children at an orphanage to start life in a new home. His adoptive parents were intelligent, well-educated professional people with no children of their own. The choice was made on the basis of David's charming manner, his immediate response to people and a pleasant facial expression. No information was available concerning his parentage, but it was said that he was an illegitimate baby. The adoption was legalized without further investigation.

David's adaptation to the new home was more troublesome than had been anticipated. He screamed at night and displayed extreme fears of being punished. He was restless, discontented, and random in his interests. Speech appeared late. As he grew older he had much trouble in getting along with other children. He seemed to enjoy annoying others. His attention was rarely well controlled and consequently, learning ability was considerably reduced. Personal habits were acquired slowly and practiced undependably.

He would respond to encouragement for short periods. Despite the great patience and the complete understanding with which he was treated by his adoptive parents, David's problems increased as time passed. He is now nine years old. Only in the second grade at school, he is unable to follow the work of that level and, in addition, is a serious conduct problem. His school maladjustments led to the examination at the Mental Hygiene Clinic. His teacher states that David is unmanageable in the classroom. He disrupts the class routine, gives no heed to his lessons, learns very little without constant individual attention. He is aggressive toward other children, frequently striking them and calling them names.

He has no friends. Stealing money, bicycles and other articles seems to have become a set habit in spite of efforts on the part of his parents and teachers to cure him of this. He is untruthful and acquires antisocial attitudes more easily than he does constructive work habits. He was seen smoking. His reaction to praise and punishment is positive, but of short duration. He is extremely stubborn, tense, and impulsive.

David's adoptive parents are quite distressed about their inability to cope with his problems. The mother is prepared to admit defeat and shows it by becoming disinterested and by active rejection. The failure to give David the education she planned for him and to enjoy the fruits of her efforts in later years is as disappointing to her as is the inability to have a child of her own.

Yet most such adoption tragedies are avoidable at present. In our age blind adoptions are wasteful and unnecessary. Careful pre-adoption studies of the child's abilities, attitudes, habits and of his entire personality provide a more secure basis for normal relationships and for the just satisfaction to be derived by adoptive parents from their work and sacrifices than does the outmoded, impressionistic picking of a "cute" baby from an infant mart. David's genealogy was less well known than that of a dog or cat at a pet show.

The question arises as to how valid and reliable psychological examinations of infants are. When intelligence testing of school chil-

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dren became a common procedure some twenty-five years ago much was written about the reliability or unreliability of pre-school tests. Many writers have then questioned the very practicability of infant examinations. These doubts concerning the value of mental studies of very young humans still linger on, even though much research has been done since then. The extensive studies of infant growth by Gesell at Yale University and by Charlotte Buhler at Vienna have very considerably enriched our knowledge about the mental and physical development of babies. As more psychologists are trained for diagnostic and educational work with infants, test results are being accepted as invaluable aids in educational counseling, habit training, personality improvement, foster home placement and adoption procedures.

Infant tests have been expanded in the number of phases observed. The human samplings on which the original observations are made have been improved. Technical and statistical methods have been refined. The present status of infant tests is such as to inspire an optimistic view of their value. Gesell makes this point quite clear in the following quotation: "If prediction is the essence of science, mental growth has a better scientific status than many problems which seem more simple and more valid. Growth is lawful. The seasons in their sequence and in their consequence are so ordered that Thoreau boasted that he could tell the day of the month within two days by the flowers that grew. In spite of its bewildering complexity, the growth of the child mind also will be found to be within the realm of law."

The orderliness of mental growth is exemplified by the gradual progression of numerous phases of behavior. Vocalization, articulation, and the appearance of speech have their set age norms. Gross motor development occurs according to a definite plan. The finer manipulative abilities appear in distinctly scalable sequences. The same rule applies to social adjustments and personal adaptations.

If a tiny object is placed on the table in front of the child, it is usually disregarded if the baby is less than five months old. At five months the average child fixates the ob-

ject with some attentiveness. His eyes may return to it, when it is temporarily lost from visual regard. At six months the average child will show some form of locomotive tendency toward the object. At seven months he will make a definite attempt to pick it up, usually without success. One month later, manual coordinations have grown sufficiently to enable him to get hold of it with a raking movement of the whole hand. At nine months the object is secured with scissor-like movement between the thumb and finger with the hand usually resting on the table. A still higher form of manual grasp which appears at 11 months is the pioneer-like movement of thumb and finger from above without hand support on the table. In a similar manner the miracle of growth unfolds before our eyes in whatever activities and situations we select for study and measurement.

Norms may be established with fair accuracy for average infants. The difficulties of interpretation of results are no more serious in the case of infants than they are in the case of school children or adults. In both cases the obtained IQ's may not be regarded as rigid, unalterable values reflecting the global intelligence of the individual. They have much broader significance. The forces and factors which influence the effectiveness of a child's adjustments are very many. Most of them lie beyond the scope of purely intellectual aptitudes. The physical, temperamental, emotional, educational and conative phases play an enormous part in determining the baby's I. Q. on any test. The relationship of one function to another provides invaluable clues to the study of infant personalities. Since each I. Q. is the result of non-intellectual as well as intellectual traits it is important to know that no single function reflects the growth of intelligence. Thus speech may appear late and sometimes very late in perfectly normal, often superior children. The mental normality of a child cannot be determined by the study of one behavior phase alone. However, the development of speech in relation to the development of gross bodily movements has important prognostic implications. The status of speech assumes significance only in the light of the growth of all other functions. The meaning of mathemati-

cal evaluations is never absolute. Their relativity and interdependence enables us to decide whether the absence of speech indicates general intellectual retardation, or a specific handicap, or a physical deficiency, or a temporary educational plateau. It also permits certain predictions at an early age concerning the future development of the language functions. It is possible to speculate on the basis of test results at the age of one year whether a normal child will have difficulties in learning to read and write when he enters school at the age of six. The aptitudes underlying normal language mastery are clearly retarded at the infantile level, even though the baby may be entirely normal in all other respects and his global I. Q. may be average.

The need for a large number of units of growth and for small units of duration at the infantile stage of the life cycle is imperative. Development immediately after birth is rapid. Small increments or decreases may result in large variations and fluctuations of I. Q.'s. To reduce the clinical and experimental error all babies brought to our Mental Hygiene Clinic are studied by means of at least three infant scales. The scales used are the Vineland Social Maturity Ratings, the Cattell Infant Scale, the Kuhlmann-Binet Tests, and the Gesell Developmental Schedules.

Below are samples of test results of four babies with descriptive reports of their behavior and personality as observed during the examination.

TEST	Baby 1	Baby 2	Baby 3	Baby 4
	Age: 10 mos. I. Q.'s	Age: 1 yr. I. Q.'s	Age: 8 mos. I. Q.'s	Age: 1 year I. Q.'s
Vineland .....	49	82	105	122
Kuhlmann ....	....	81	104	118
Cattell .....	62	....	104	....
Gesell .....	59	74	....	112

**Baby 1:** Barbara is retarded in neuromuscular development. She cannot support herself in a sitting position and is uncomfortable and unhappy when held upright. She indulges in a good deal of aimless activity and some simple purposeful behavior when lying down. Eye movements are inaccurately co-ordinated. She attends visually only to fairly large, bright objects and even these

distract her very briefly from her misery. She takes hold of objects as she moves her hands and arms. Manipulation lasts only a few seconds. Barbara does not distinguish between familiar and unfamiliar persons. In fact, she rarely responds to the presence of people. Her simple wants remain unexpressed. She is most retarded in vocal development. Her crying is stereotyped and undifferentiated. Other vocal activity is absent. In addition to general retardation Barbara presents several peculiarities which indicate that her tendency will be to regress as time goes on. She is now mentally deficient and, because of defective attentional control, very difficult to train. She is eligible for commitment to the Colony for the feeble-minded.

**Baby 2:** Amelia is restless and fretful. She does not seem to be interested in constructive play. She stares at objects placed in front of her. When they are handed to her, she accepts them passively and usually puts them in her mouth. She chews vigorously on anything she can get hold of. She is dissatisfied with whatever attention she gets from her mother. When on her mother's lap she wants to get down. When she is down she wants to be picked up again. If not immediately satisfied she cries and falls to the floor in a temper outburst. Her mother states that Amelia behaves similarly all day long. Mother is greatly relieved from the strain of attending to her, when the baby is put to sleep at night.

Amelia's mental development is below average. Her motor functions are potentially the highest, though she is awkward because of a severe condition of rickets. She jabbers a great deal in her own jargon and is quick to imitate inarticulate sounds occurring in her immediate environment. She can say two words with some vestigial understanding of their meaning. Her adaptive behavior is the least well developed. The range of her mental activities is limited. She is unable to repeat simple acts. Her spontaneous play is restricted to carrying objects about the room and chewing wood. This baby is of low dull normal intelligence. Due to restlessness and lack of steady attention she functions in most instances at a level somewhat below her capacity. Speech is likely to appear early and increased language activity will serve as

a compensation for reduced motor effectiveness. The physical diagnosis was rachitic convulsions. Lack of adequate training and physical neglect are due to mother's blindness and emotional instability.

Baby 3: James is a lively baby. He anticipates some sort of meaningful activity at all times and plays with the table edge when nothing else is available. He is alert to events in the room and to articles within his reach. His manual grasp is direct and rather skillful for his age. Play is varied. He is in good control of each new situation and takes full advantage of opportunities for new impressions and experiences.

Motor development is normal for his age. He sits well and is beginning to stand with support. His natural curiosity finds support in aggressive action and excellent eye-hand coordination. Articulation is strikingly rare during the actual interview, but is reported to be in keeping with age norms. James prefers the left hand for grasping and the finer manipulations. His habit training is normal. He is of average intelligence and should develop in accordance with his capacity level in most functions. However, speech may be somewhat late in appearing and slow in developing.

Baby 4: Bill is an alert and responsive baby. He notices the various articles on the desk and immediately expresses willingness to play with them. He reaches out for them persistently and, if they cannot be reached, indicates by voice and pantomime that he wants them. He studies everything intently, but does not retain it for long. His curiosity is intense, though not profound. Gross motor activity is preferred to skilled manipulations. This preference may be a temporary one, as Bill is beginning to walk and thus to widen his experiences with the more distant environment. He is quick, almost impulsive, in his desire to learn. Comprehension is overspontaneous. This may interfere with the development of habits of voluntary attention and exertion in overcoming normal obstacles and in meeting ordinary challenges. He is dependent on others in critical situations. Bills' native endowment is definitely above average. Social attitudes are matter-of-fact and constructive.

Psychometric re-examinations of babies reveal no greater variability and change in mental ratings than do test results at higher age levels. Of course, the constancy of mental quotients is a specious claim. Intelligence as native capacity may be relatively constant, even though test quotients are not. However, there is law and order in all psychological changes. Longitudinal shifts in I. Q.'s may be predicted from intra-test variations and quotient patternings of any thorough cross-sectional study. The majority of test patterns are fairly consistent and uniform in their numerical distributions. There are, however, disparate behavior constellations with ascending or descending trends. The rate of rise and ebb may vary according to the circumstances of the individual case.

When tests of attention and speech development are compared, predictions concerning the rate and nature of future changes in I. Q.'s are often possible. When attention is good and speech poor, the trend of quotient changes is usually upward at the pre-school level, downward between the ages of 6 and 16, and upward again after 16, until 25. When speech mastery is normal, but attention poor, the trend is usually downward all along the age line. The earlier in life attention difficulties appear the more certain and the steeper the decline. In severe cases the decrease in mental efficiency may extend over all functions. Similar comparisons between all test functions furnish additional criteria for estimating the prognostic outlook. No single test rating has absolute diagnostic significance. It acquires full meaning only in relation to other findings. High ratings on tests are not necessarily favorable signs of personality integrations. General failure to adjust may be forecast with good accuracy from high achievement in certain domains, whenever this achievement occurs at the expense of other important domains. Verbal tests are no more valid in the determination of intelligence than are tests of motor, social, and adaptive development. The intrinsic multi-valence of test scores renders interpretations exceedingly difficult. Identical mathematical terms may have different psychological meanings depending on the patterns in which they are found. On occasions, remark-

able statistical constancy is produced by the intra-individual clash of powerful but equal forces pushing in opposite directions. Significant I. Q. changes may occur at all levels of intelligence. A baby who tests average at the age of one, may rate superior two years later. Such large changes are usually predictable.

The practical value of the statistical findings and of their descriptive complement becomes apparent when specific advice is given about the child's training problems. The social agency, through its home visitor, and the parents and foster parents are enabled to influence the direction and nature of the child's growth by resort to scientific data which is interpreted in a common-sense manner.

Prospective adoptive parents are informed as accurately and objectively as possible, before adoptions become final, about the risks and training problems which they face. Unwholesome emotional attachments between foster parents and adoption candidates may be counteracted by pointing out the apparent deleterious effects on the child. The strict supervision and control of social attitudes toward children with late speech developments are of utmost importance. Avoidance of unnecessary punishment and psychological trauma in cases of tardy speech may actually hasten the appearance of speech and thus prevent a long series of untold social maladjustments in children with otherwise normal personalities. Infant counselling is one of the youngest and most promising psychological disciplines. The practical results of sound educational therapy at this stage are most gratifying, as the subjects are flexible, pliable, and suggestible.

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#### DELAWARE ACADEMY OF MEDICINE

Preventive medicine was stressed by a panel of 10 Wilmington physicians at the first of a series of open forum meetings for the public held on May 19th by the Delaware Academy of Medicine. The interest was so great that it is hoped to hold a similar forum meeting soon. Dr. Joseph M. Messick presided over the panel.

Dr. G. H. Gehrmann, who opened the discussion, pointed out that the need for preventive medicine is greater than ever before,

because so many physicians are now serving with the armed forces. He pointed out that it was the duty of the "home front soldiers" to learn and observe the rules which will keep them well. He pointed out that great strides had been made in preventive medicine, citing the curb of bubonic plague, smallpox, yellow fever and typhoid.

Special preventive medicine concerned with diseases of children was discussed by Dr. C. E. Wagner. Questions were asked concerning diphtheria immunization, the giving of serums to prevent whooping cough, and preventive measures which help cut down such communicable diseases.

At the meeting one of the doctors pointed out that an American flier who crashed following the bombing of Tokyo had to have an injured leg amputated because he had lost his packet of sulfanilimide tablets. The miracles achieved by the sulfa drugs was another topic discussed by the panel. The doctors warned the layman to beware of this powerful and dangerous drug unless it is advised by a physician and administered under his supervision.

Other doctors in the panel were Drs. Lewis B. Flinn, Frederick A. Hemsath, E. Harvey Lenderman, Lawrence J. Jones, Edgar R. Miller, John H. Foulger, B. B. G. Blackstone and Frank Konzelman.

Cancer and vaccines were the other two general topics discussed. The audience bombarded the panel with questions that ranged in one 20-minute period from trichinosis through the common cold, influenza, bubonic plague, and infantile paralysis.

Because of the excellent reception given the first forum, it is fairly certain another one will be held soon. The public was urged to send in written questions, addressed to the Academy of Medicine.

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On May 21st, Dr. Jacob A. Bargen, of the Mayo Clinic, Rochester, Associate Professor of Medicine, University of Minnesota, Graduate School of Medicine, addressed the Academy on "The Varieties of Ulcerative Colitis; Their Relation to the Current War, and Their Management." This excellent address was especially well received.

# \* Editorial \*



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### SELECTIVE SERVICE

The local boards of Selective Service, as well as the Induction Boards, are confronted with a very serious problem, more so now than a year ago, first, because we have more data from combat and non-combat service; secondly, because we are conscripting the boys between 18 and 19 years of age. According to recent information about 27 men out of every 1000 enter hospitals because of mental illness. From 15% to 20% of all casualties being returned to the United States are neuro-psychiatric in nature. It is entirely within the Selective Service mechanism to

lower the above figures as much as humanly possible. The Selective Service System, as well as some of the state medical authorities in connection with some of the national social agencies, are working on a new approach which will eliminate from induction many young men who are fairly well adjusted in civilian life and are unquestionably useful citizens but who have definite personality defects in a form of maladjustment, neuroses, psycho-neuroses, mild psychopathic tendencies and other pre-psychotic conditions which are bound to become active under the stress of armed service.

We congratulate those men and women who have considered this social psychiatric approach. We have offered the services of the Mental Hygiene Society as well as the Mental Hygiene Clinics to the National Selective Service System and to the Delaware State Council of Defense.

If approved, we propose to establish a committee of qualified volunteer workers, who will gather all the necessary information from schools, agencies, courts, hospitals, etc. and whenever an individual has a history of a personality defect of some form, this individual will be studied carefully by competent specialists, and the report will be transmitted to the Local Draft Boards. Such a procedure will be carried on under strict confidence, thus protecting the future of the draftee. We are of the opinion that such a procedure will save many young men from undergoing an active psychotic experience, even if we forget the unnecessary expenditures of man power and funds.

## THE SOCIAL NEEDS OF THE PRE-ADOLESCENT AND ADOLESCENT GIRL

CATHERINE T. GIBBLETT\*,

Farnhurst, Del.

Many young girls, as well as young boys, are studied by the Mental Hygiene Clinic in Delaware. Among the girls there are the wholesome young adolescents who have been referred by schools and agencies for educational and vocational guidance. There also is the large group of delinquent and pre-delinquent girls who are referred by the courts, the probation officers, the schools, and agencies. These girls are studied carefully by the psychiatrist, the psychologist and the social worker. That which characterizes their life situation to a most marked degree is their lack of stimulating interests outside of their newly developed fascination for boy friends. They read popular fiction about love and they prefer shows which portray love making. These recreations necessarily add to their ideation about their own love affairs and desire for romance.

For many years it has been recognized that modern civilization brings about postponement of marriage beyond the age when young people physically are prepared for homemaking. For this reason sublimation of the sex urge, with its many secondary manifestations, is essential to a wholesome development of the adolescent. Society falls short in not supplying many fascinating interests for this age group. Frequently the pre-delinquent and delinquent girls come from dilapidated, drab homes where there is both physical and emotional deprivation. The homes for the most part are crowded and poorly furnished. Their lack of cleanliness is often deplorable. Frequently the girl from the underprivileged home has, at the age when she normally becomes attracted to boys, feelings of discontent concerning her home life. If she had a marked interest or hobby before she completed her development the chances are she would go through the adolescent period with fewer strong attachments and with less risk of becoming sexually delinquent. This illustrates the real value of interests as substitutes for thoughts about the affections of men.

\* Chief Psychiatric Social Worker, Mental Hygiene Clinic, Delaware State Hospital.

It is not unusual for the girl who lacks opportunities to develop worthwhile interests also to be deprived of affection from her family. Her home life may be characterized by friction, bickering and profanity. If the girl finds her first emotional security in a man's making love to her—this occurring at the age when her sex urges are developing—it will then be most difficult for her to acquire an interest or hobby which will be equally satisfying emotionally. If she has a strong, all-consuming interest before she has the emotional experience that comes with love-making she will be less easily approached and taken advantage of by the man who is using her for a diversion or a pastime.

A case which illustrates the point presented is that of a young girl who because of her crudities is not permitted to attend the U. S. O. parties and entertainments but who meets the military men on the beach and allows them privileges. She is from a motherless home, the parents' separation having followed the father's excessive drinking. Another instance is the young girl who maintains to the probation officer that her "soldier boy friend" is sincere when he tells her she is sweet and that she has made his life worthwhile. This girl has never had an opportunity to meet boys on a companionship level. She is unable to talk to men about current affairs or follow their hobbies and intellectual interests. Unfortunately, her first several experiences with men, after she developed physically and after she became interested in the opposite sex, were in situations in which she had intimate relations. She knows of no other way to be interesting to a man. Still another young girl, who is from one of the crudest homes that the social worker has visited, has become a ward of the Juvenile Court because of her sexual delinquency. This girl was held at the Detention Home for a week. She was fascinated with the life there, while she was kept wholesomely occupied, and that about which she exclaimed most was, as she stated, "I bathed every day in a bathtub."

Every community should have club rooms for its young people from underprivileged homes. Such a place should supply opportunities for formations of challenging inter-

csts. Interests are not necessarily expensive. One girl who comes to the clinic has a scrapbook of horses. This grew out of her having lived, as a child, near stables where beautiful horses were kept. She has extended her clippings to pictures of famous horses. Another young person says that she has always "loved" cartoons. During the present war she has saved cartoons and put them in a scrapbook. They are so well selected that they represent a history of the war. She gets much recognition from her associates when she shows her "collection." Watch the facial expression of young persons who are succeeding in a vigorous game of ping-pong and see the effect on the players' personalities.

These delinquent and pre-delinquent girls usually have not experienced success in school, as early in their school life they developed feelings of inferiority and inadequacy as a result of their appearance and inability to converse and compete in class discussions. The school failures have not resulted, except in occasional instances, from lack of mental ability but have been brought about by deprived environmental conditions. Furthermore, many of these girls have language and reading disabilities which have been factors in their lack of school success.

The club should supply opportunities for the girl to know how to be more attractive in appearance. With inexpensive means she could be shown colors and lines which are attractive and suitable to her. She could be taught the simple principles of personal cleanliness. The class could be labeled by some name which would appeal to the young girl as "Class in Charm." Every community has among its residents persons who have had unusual experiences or backgrounds and would be able to take the responsibility of certain subjects in the classes. For instance, one young matron recently spoke with pride about having had lessons in walking. This person could talk enthusiastically about graceful postures in sitting, walking, and dancing.

At all times a club for girls should have a person who could act as counselor to the members. Often in a game the young adolescent girl, due to home patterns of conduct and to her immaturity, is quick to become angry and quick to quarrel. If at such mo-

ments someone could talk over the problem with her and help her to adjust to the difficult situation she would have a maturing which would enable her to understand the rights of others, her own need to sacrifice, and the value of self control. Out of these contacts in counselling would develop the revealing of the girl's personality and emotional problems at times when she most needs guidance.

Classes in conversation might well be a part of the program for the underprivileged girl. If she could express herself well and talk interestingly and also could make the best of her own appearance she would be invited to attend activities rather than to have to resort to spending an evening in an isolated spot where the entertainment consists of love-making and intimacies.

One of the greatest opportunities that such a club could offer the girl would be the meeting of boys and men on a companionship level. Wholesome games, dancing and singing would satisfy the desire the girl has to be with those of the opposite sex. In such social activities she would develop a sublimation of her sex urges and at the same time have the enjoyment of both boy and girl friendships.

These five points—the development of a hobby, the becoming more attractive in appearance, receiving counselling in her problems, being able to talk with ease and appropriateness, and experiencing wholesome companionship with boys and men—all these opportunities would bring about a social and emotional growth in a young girl that would not only make her happier and better adjusted during her adolescent age but also a maturing which would extend into her later school, work, and home situations.

#### 25TH ANNIVERSARY

On May 2, 1943, Dr. M. A. Tarumianz celebrated the twenty-fifth anniversary of his connection with the Delaware State Hospital. On May 2, 1918, he was appointed Assistant Physician, later becoming Assistant Superintendent, in which capacity he served until 1925, when he was appointed Medical Director. In 1926 he became Superintendent of the Hospital, and in 1929 Director of the Mental Hygiene Clinic and State Psychiatrist and Criminologist.

**5,981 DOCTORS ADDED IN 1942**

There were 5,981 additions to the medical profession of the United States in 1942 according to the forty-first annual presentation of licensure statistics by the Council of Medical Education and Hospitals of the American Medical Association, published in the May 8 issue of *The Journal* of the Association.

The report points out that "It is not known how many of these are at present in civilian practice. The annual number of deaths reported to the American Medical Association in 1942 was 3,353. It would appear, therefore, that the physician population in the United States last year was increased by 2,628. The greatest number in any one state, 1,147, was added in New York. More than 300 received their first licenses in California, Illinois and Pennsylvania. In thirteen states between 100 and 299 received initial licenses. Thirty states, the District of Columbia and Hawaii increased their physician population by fewer than 100. Nevada granted no original licenses during 1942. . . ."

The foregoing figures represent candidates examined in 1942 and immediately licensed, also those examined in previous years whose licenses were withheld for lack of internship, citizenship and other technicalities and issued in 1942, as well as those without a state license who were during the year certified on the basis of the examination of the National Board of Medical Examiners, government services, Canadian and foreign credentials. The majority, however, represent recent graduates.

The additions to the profession in 1942 were 269 more than in 1941.

From the United States there were added to the profession 4,811, Canadian schools 54, foreign faculties of medicine 835, medical schools no longer in existence 189, and unapproved schools 92. The largest number, 1,696, was added in the Middle Atlantic states. The East North Central group had a total of 1,061, the West South Central 693, the South Atlantic 638, the West North Central 558, the Pacific states 509, the New England group 403, the East South Central 313 and the Mountain states 98. Twelve were added to the profession by licensure in Hawaii.

"As a war emergency," the report says, "the medical schools of the country, with three exceptions, have adopted an accelerated program which provides for the utilization of the long summer vacation as a teaching period, and by continuing the schedule throughout the calendar year the four-year medical course is completed in three years. The medical practice acts in a number of states, however, preclude licensure of applicants who pursue medical training under the accelerated plan. . . ."

There were nine states in which amendatory legislation was considered necessary in order that candidates following an accelerated program of medical education might qualify for licensure. These were: Georgia, Illinois, Kansas, Maryland, Michigan, Nebraska, New Jersey, South Carolina and Virginia. The legislature of Virginia met in 1942 and passed a bill to remedy the situation there and the legislatures of the other eight states are meeting in 1943. Of these Kansas, Maryland, Michigan, New Jersey and South Carolina have already completed legislative action so that graduates, after accelerated courses, may obtain licensure. In Nebraska corrective legislation is pending but none has been introduced in Georgia or Illinois. The licensing board of Georgia has informed the office of the Council on Medical Education and Hospitals that requirements in the state do not prohibit licensure of physicians who have completed their studies under an accelerated program.

"The collegiate training programs," the report says, "now being formulated by the Army and Navy . . . provide for an acceleration of premedical education which may present licensure problems in the future, and additional legislation will be necessary in some states in order that a physician who has had less than the two-year premedical requirement may obtain licensure. . . ."

"Removal of physicians from civilian practice has resulted in a shortage of physicians in critical areas. To assist the physician attempting to relocate in such areas or in industrial sections of the country, it has been suggested that licensing boards modify their reciprocal and endorsement relationships and expedite licensure procedures. In eleven

states, namely Arizona, Arkansas, Delaware, Florida, Georgia, Louisiana, Mississippi, Nevada, Rhode Island, South Carolina and Washington, the medical practice acts provide for the issuance of temporary permits or certificates to practice medicine valid until the next ensuing examination. . . .

"In addition to the states named, the New Jersey medical practice act exempts from its requirements a lawfully qualified physician and surgeon of another state taking charge temporarily of the practice of a lawfully qualified physician of New Jersey during his absence from the state, on written request to the board of medical examiners for permission to do so. Pending legislation provides that such permission may be granted for a period of not less than two weeks nor more than four months and that the board of medical examiners, at its discretion, may extend such permission for further periods of two weeks to four months but not to exceed in the aggregate one year. In two states, Delaware and Nevada, legislation has been enacted providing for the issuance of temporary permits or licenses, valid generally for the duration of the emergency. In Pennsylvania and Maine similar legislation is pending. In Kansas and Vermont the proposals to authorize the issuance of temporary permits or licenses were defeated this year."

Eighteen states, Alaska, Hawaii and Puerto Rico require full citizenship and nine states naturalization papers as a condition precedent to taking the examination. In some states the requirement is by rule of the medical board, in others the provision is by statute.

In 1942 there were 1,630 applicants examined by twenty-four states and Hawaii, representing ninety-nine faculties of medicine and three licensing corporations of twenty-two European and four other countries as well as the Philippines. Of these 890 passed and 740 or 45.4 per cent failed. The largest group, 397, were graduates of the University of Vienna. They were examined in thirteen states with a failure percentage of 45.1. Nine states examined 111 graduates of the University of Berlin, of whom 50.5 per cent failed. The greatest number examined by any one state was 1,263 in New York, of whom 47.0 per cent failed.

### A DOCTOR'S PLEA IN WARTIME

The doctor's life, in times like these,  
Is not exactly one of ease.  
For, on the home front, each M. D.  
Is busier than any bee!  
He's shouldering the burden for  
The other does, who've gone to war.  
This leaves your doctor precious little  
Time to sit around and whittle.  
And indicates the reason why  
You ought to help the poor old guy.

#### *How?*

1. By keeping yourselves in the best of condition  
Thus avoiding the ills that demand a physician.
2. By phoning him promptly when illness gives warning,  
But—unless very serious—waiting till morning.
3. By cheerfully taking whatever appointment  
He makes for prescribing his pills or his ointment.
4. By calling on him where he works or resides  
Instead of insisting he rush to your sides.  
(Of course, he'll come 'round when there's need for his service)
5. And, last but not least, you can help in this crisis  
By carefully following doctor's advices.

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If these commandments you'll adhere to  
A doctor's heart you will be dear to!  
Copyright, 1942, the Borden Company.

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During four years 1937-1940 tuberculosis caused more deaths in the United States than were caused by all the battles of all the wars in which this country has been engaged, beginning with the Revolutionary War and continuing through the first World War. Robert Plunkett, M. D., N. Y. State Dept. of H., Bull., Feb. 1943.

### OBITUARIES

KENDALL J. HOCKER, M. D.

Dr. Kendall J. Hocker, physician and druggist, former postmaster, leader in civic and lodge affairs, and a past president of both the Sussex County Medical Society and the Medical Society of Delaware, died at his home in Millville on April 24, 1943, aged 66 years.

Dr. Hocker was born September 6, 1876, a son of the late Jacob and Mary A. Hocker. He lost both of his parents while a small boy but he succeeded in securing a good education. After passing through the public schools, he was graduated from the Wilmington Conference Academy, now Wesley Junior College, at Dover. He was graduated as doctor of medicine from the University of Baltimore in 1898. The next year he did post-graduate work at the University.

In 1900 he married Nettie L. West of Suffolk, Va., who survives him, as do three sons, Leslie M., in the U. S. Army; Leaton E., at home, and Kendall J., Jr., of Rehoboth Beach, and one daughter, Mrs. John Sanford Noble of Millville. He is also survived by two sisters, Mrs. Amanda C. Gledhill and Mrs. Nellie Magee and a half-brother, Dr. Ulysses W. Hocker of Lewes.

The funeral was held on April 27, 1943, with Hope Chapter, Royal Arch Masons, in charge. Burial was in Brotherhood Cemetery, Millville.

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**ARISTIDES J. MAVROMATIS, M. D.**

Dr. Aristides J. Mavromatis, 54 years old, of Newark, a member of the staff of the Delaware Hospital, died on May 3, 1943, in that hospital from a heart condition and complications.

Dr. Mavromatis was graduated from Columbia University in medicine in 1929, served as an interne at Delaware Hospital in 1930 and 1931, and had practiced in Newark since that time. He was born at Smyrna, Greece, and came to this country about 20 years ago. He also attended New York University.

Surviving him are his wife, Mrs. Diane Mavromatis; a son, John; a brother, Spiros Mavromatis of New York City, and a sister living in Greece. Prof. James C. Kakavas of the University of Delaware was a cousin.

The funeral took place on May 6, 1943, with

services in the Greek Orthodox Church in Wilmington. Interment was in Silverbrook Cemetery, Wilmington.

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**BOOK REVIEWS**

Attorneys' Textbook of Medicine. By Roscoe N. Gray, M. D., Surgical Director, Aetna Casualty and Surety Company. Second edition. Pp. 1486. Cloth. Price, \$16.50. Albany: Matthew Bender & Company, 1940.

This is the sort of book that the doctor seldom sees, but should. Written primarily from the insurance, compensation, and damage suit viewpoints, the book, as its title indicates, is aimed at the lawyers, but an equally desirable target would be the doctors also. This reviewer knows of no other book exactly like it, and of only a couple of others that even resemble it. Naturally, it will not answer *all* the questions that may arise in a given case, since it is not an encyclopedia; nevertheless it is almost fair to say "it has everything"—descriptive text, statistics, costs, fees, etc. These are items of as much value to the doctor as to the lawyer.

The chapter on "Consultations" is entirely too brief and sketchy, especially the section relating to ethics, which savors too much of "corporation practice" and too little of the rights of the attending physician. This is a dangerous attitude, especially in view of the recent tremendous advance in unionism and the liberalization of state compensation laws (Delaware did this only two months ago) allowing the patient (injured employe) practically free choice of physician.

The book contains no illustrations, but with it goes a small Atlas of Human Anatomy (pp. 86, with 80 illustrations, mostly in 8 colors) published by Barnes & Noble of New York, and which sells separately for \$2.25. These drawings from the University of Berlin and Johns Hopkins, are excellent. The index is something to talk about—a mere 28,000 entries, filling 222 pages!

This is a book for *every* doctor in clinical practice.

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Psychosomatic Medicine. By Edward Weiss, M. D., Professor of Clinical Medicine, Temple University; and O. Spurgeon English, M. D., Professor of Psychiatry, Temple University. Pp. 687. Cloth. Price, \$8.00. Philadelphia: W. B. Saunders Company, 1943.

This book would serve as an excellent text-

book for the medical student and general practitioner. Its concept of psychiatric reactions is clear and readily understood. It is also of value to the practitioner and psychiatrist who is inclined to be biased in his psychiatric viewpoint, as it offers much new material clearly and plainly, and is readily understood. One can recommend it to all physicians, since all are in need of a broad psychiatric understanding of their patients. It is not technically difficult to read, and though somewhat biased in itself, in connection with other concepts of psychiatry it is of great value, and can be considered as essential reading if the physician desires a broad knowledge of psychosomatic medicine.

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**Autonomic Regulations.** By Ernest Gellhorn, M. D., Professor of Physiology, University of Illinois. Pp. 373, with 50 illustrations. Cloth. Price, \$5.00. New York: Interscience Publishers, Incorporated, 1942.

This book shows profound study and research in the subject offered. It is extremely technical but offers essential knowledge of the autonomic nervous system for the psychiatrist and neurologist. At the same time it would seem that explanations could be simplified so that it would be of more interest to all physicians. However, the data offered is invaluable and offers new lines of thought in regard to physiological and psychological reactions of the individual. The book shows the result of broad reading and intensive study. The effects of insulin shock therapy and blood chemistry are carefully studied in connection with the secretion of other endocrine glands.

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**Fundamentals of Psychiatry.** By Edward A. Strecker, M. D., Professor of Psychiatry, University of Pennsylvania. Pp. 201. Cloth. Price, \$3.00. Philadelphia: J. B. Lippincott Company, 1942.

Dr. Strecker again writes a book which cannot be surpassed. This book portrays his keen understanding and sympathy in regard to human nature. True, it is a hand-book and as such is meager, but it contains a knowledge and understanding which is profound. His kindness cannot be over-estimated, and this is revealed in his book. It would seem to me that this book is a must, not only

for the practicing psychiatrist, but also of all physicians and medical students. Dr. Strecker is a leader in the subject of psychiatry and his written word should be known by those interested in medical work. He has the ability to clarify psychiatry in a few well chosen words, which ignore no schools of thought but incorporate all into a workable, practical text.

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**The Principles and Practice of Obstetrics.** By Joseph B. DeLee, M. D., late Professor of Obstetrics and Gynecology, University of Chicago, and J. P. Greenhill, M. D., Professor of Gynecology, Cook County Graduate School of Medicine. Eighth edition. Pp. 1101, with 1074 illustrations, 209 in colors. Cloth. Price \$10.00. Philadelphia: W. R. Saunders Company, 1943.

A new edition of DeLee is always welcome, and this eighth one, entirely reset, is no exception. The latest teachings in this field have been incorporated and necessary revisions made. The illustrations are excellent, especially the unusually large number in colors. Despite the death of the senior author, the book still stands as one of the two or three best American texts on obstetrics.

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**Fundamentals of Immunology.** By William C. Boyd, Ph. D., Associate Professor of Biochemistry, Boston University School of Medicine. Pp. 446, with 45 illustrations. Cloth. Price, \$5.50. New York: Interscience Publishers, Incorporated, 1943.

This book gives a thorough portrayal of the fundamental mechanisms of immunological reactions and their theoretical foundations. As such, with its bibliography, it is essential to teachers and investigators in fields using immunological and serological methods. On the other hand, as an example of its practical information, may be mentioned a "Table of Blood Groups of Off-spring Possible or Impossible from Any Mating Combination." For the medical student it offers a thorough understanding of the fundamentals underlying antigen-antibody reactions and their application to medicine, and this without cluttering up the presentation by using the historical approach. All in all the book presents much valuable information to a wide variety of students and specialists.

**1789—MEDICAL SOCIETY OF DELAWARE—1943**

Meets October 12-13, Wilmington

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**REPRESENTATIVE TO THE DELAWARE ACADEMY OF MEDICINE**

J. L. Fox, Seaford

**NEW CASTLE COUNTY MEDICAL SOCIETY—1943**

Meets Third Tuesday

A. J. STRIKOL, President, Wilmington.  
C. C. NEESE, President-elect, Wilmington.

C. E. MARONEY, Vice-President, Wilmington.

C. L. HEDIBURG, Secretary, Wilmington.  
J. M. MESSICK, Treasurer, Wilmington.

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Delegates: 1943: B. M. Allen, L. W. Anderson, T. H. Baker, W. E. Bird, A. L. Heck, C. L. Hudiburg, J. D. Niles, C. E. Wagner, A. J. Strikol. 1944: E. M. Bohan, Ira Burns, J. J. Cassidy, C. H. Davis, L. B. Flinn, P. R. Smith, M. A. Tarumianz, B. S. Vallett, G. W. Vaughan, N. W. Voss

Alternates: 1943: D. T. Burch, I. L. Chipman, D. T. Davidson, J. R. Downes, G. W. K. Forrest, J. W. Kerriigan, W. W. Lattomus, W. L. Lee, C. C. Neese. 1944: Julian Adair, G. J. Boines, J. W. Butler, K. M. Corvin, G. H. Gehrmann, H. W. Gray, J. F. Hynes, E. L. Kreiger, J. C. Pierson, L. J. Rigney.

Board of Censors: E. R. Miller, 1943; W. E. Bird, 1944; L. J. Jones, 1945; L. J. Rigney, 1946; L. B. Flinn, 1947.

Program Committee: C. C. Neese, A. J. Strikol, C. E. Maroney.

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H. W. SMITH, Secretary-Treasurer, Harrington.

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Alternates: Stanley Worden, S. M. D. Marshall, A. V. Gilliland.

Censors: H. V. P. Wilson, H. W. Smith, W. T. Chipman.

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Open 10 A. M. to 1 P. M.

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Delegates: Bruce Barnes, K. J. Hocker, D. V. James, R. S. Long.  
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P. K. MUSSLEMAN, First Vice-Pres., Wilmington.

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C. M. COX, Secretary, Newark.

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